



# AUBURN UNIVERSITY

Auburn, Alabama

## ALABAMA'S LAND GRANT UNIVERSITY

1960-61 CATALOG NUMBER  
With Announcements for 1961-62

### Auburn University Bulletin

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# UNIVERSITY CALENDAR

1962

February 3, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Monday schedule)  
February 6, *Tuesday*——Reporting of mid-quarter  
deficiencies  
February 19-21, *Monday* noon through *Wednes-*  
*day*——Pre-registration for Spring Quarter  
March 3, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Tuesday schedule)  
March 10-14, *Saturday* through *Wednesday*——  
Final examinations  
March 14, *Wednesday*——Graduation exercises

## 1962—Spring Quarter

March 21-22, *Wednesday* and *Thursday*, 7:30  
a.m. to 4:30 p.m.——Registration  
March 23, *Friday*, 7:00 a.m.——Classwork begins  
March 23-27, *Friday* through *Tuesday*——Special  
examinations  
March 24, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Tuesday schedule)  
March 26, 27, *Monday* and *Tuesday*——Change-in-  
registration period  
March 27, *Tuesday*——Last day for new registrations  
April 14, *Saturday*——Village Fair  
April 21, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Wednesday schedule)  
April 24, *Tuesday*——General Faculty Meeting  
April 25, *Wednesday*——Reporting of mid-quarter  
deficiencies  
May 2-4, *Wednesday* through *Friday*——  
Pre-registration for Summer Quarter  
May 26, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Thursday schedule)  
May 29-June 1, *Tuesday* through *Friday*——Final  
examinations  
June 1, *Friday*——Graduation exercises

## 1962—Summer Quarter

June 11-12, *Monday* and *Tuesday*——Registration  
June 13, *Wednesday*, 7:00 a.m.——Classwork begins  
June 13-16, *Wednesday* through *Saturday*——  
Special examinations  
June 14, *Thursday*——Last day for term registration  
June 14-15, *Thursday* and *Friday*——Change-in-  
registration period  
June 15, *Friday*——Last day for registration or  
adding courses  
June 16, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Monday schedule)  
July 16, *Monday*——Final examinations first term;  
registration for second term  
July 17, *Tuesday*——Reporting of mid-quarter  
deficiencies; classwork begins for second term  
August 18, *Saturday*, 7:00 a.m. to 10:00 p.m.——  
Classes (Tuesday schedule)  
August 20-22, *Monday* through *Wednesday*——  
Final examinations for quarter  
August 21, *Tuesday*——Final examinations for  
second term  
August 23, *Thursday*——Graduation exercises

## JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

## FEBRUARY

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

## MARCH

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## APRIL

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

## MAY

			1	2	3	4	5
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30	31			

## JUNE

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

## Trustees

*His Excellency*, JOHN PATTERSON, Governor, Chairman..... Ex-Officio  
FRANK R. STEWART, State Superintendent of Education..... Ex-Officio

### Term Expires 1963

E. A. ROBERTS (*First District*)..... Mobile  
W. J. FORRESTER (*Third District*)..... Dothan  
G. H. WRIGHT (*Third District*)..... Auburn  
FRANK P. SAMFORD (*Ninth District*)..... Birmingham

### Term Expires 1967

E. L. WYNN (*Fourth District*)..... Ashland  
M. H. MOSES (*Fifth District*)..... Fyffe  
PAUL S. HALEY (*Seventh District*)..... Jasper

### Term Expires 1971

R. C. BAMBERG (*Sixth District*)..... Uniontown  
REDUS COLLIER (*Eighth District*)..... Decatur  
JOHN W. OVERTON (*Second District*)..... Montgomery

BERTA DUNN, *Secretary*

1 1 1

## Council and Committees

1961-1962

### ADMINISTRATIVE COUNCIL

The President, Executive Vice President, Assistant to the President, Dean of Faculties, Director of Extension Service, Director of Experiment Station System, Director of Buildings and Grounds, Business Manager, Director of Public Information, Alumni Secretary.

### COUNCIL OF DEANS

The President, Executive Vice President, Dean of Faculties Huntley (Chairman), Deans Allen, Cater, Coker, Foy, Greene, Hurst, Parker, Pierce, Pumphrey, Saunders, Smith, Spidle; Colonels Dunlap, Lockett, Williams; Messrs. Cantrell, C. W. Edwards.

### GRADUATE COUNCIL

Draughon, Huntley, (Ex-officio), W. V. Parker (Chairman), Bailey, Bills, L. P. Burton, Capps, J. C. Hall, Hurst, McCann, W. L. Miller, Ottis, Priest, Rea, Rouse, Vestal, Ruth Brittin (Secretary).

### COMMITTEES

#### Awards and Prizes—

Basore, Arant, Brenkert, Cater, Coker, Foy, Greene, Irvine, Kelley, Lanham, Simmons, Spencer.

#### Athletics—

Allen, C. L. Adams, W. S. Bailey, W. T. Ingram, Sarver, C. R. Saunders, Simmons.

#### Calendar Committee—

C. W. Edwards, Beard, Hurst, E. O. Jones (Ex-Officio), Lanham, C. R. Saunders.

#### Campus Planning Committee—

Funchess, W. T. Ingram, F. M. Orr, F. H. Pumphrey, E. V. Smith.

#### Class Schedules—

C. W. Edwards, Anson, Clercie Edwards, Patrick, C. R. Saunders, Simmons, S. L. Thompson, Wade.

#### Concessions Board—

O. W. Bickel, Cater, A. A. Miller, Norton.



**Courses and Curricula—**

M. C. Huntley, C. H. Cantrell, C. W. Edwards, W. V. Parker, C. R. Saunders, Morris White (Ex-Officio).

**Discipline Committee—**

For Men: E. V. Smith, C. R. Saunders, Dunlap, Vallery, one student and one student alternate.

For Women: Katharine Cater, Jeannetta Land, Mary George Lamar.

**Editorial Advisory—**

Brackeen, Beckwith, Chesnutt, Dugger, Roden, Roy.

**Exchange Fellowships—**

M. C. Huntley, Current-Garcia, C. R. Saunders.

**Fraternities—**

Beard, Cater, Foy, one student member.

**Health—**

M. W. Brown, Foy, Jeannetta Land, Umbach.

**Honor Societies—**

Allen, Irvine, F. M. Orr.

**Lectures and Concerts—**

Cater, Beard, Brackeen, Cargile, C. E. Cook, Huntley, Kendrick, Liverman, Orr, Peet, three student members.

**Library—**

Cantrell, Allen, Hahn, Tanger, Hocking, Kuderna, J. E. Land, Ottis, Spencer, Sykes.

**Nuclear Science—**

Carr (Chairman), R. E. Wingard (Vice Chairman), Warren Andrews, C. H. Clark, Donald E. Davis, M. C. Huntley, W. V. Parker, C. R. Saunders, Spann, Vestal, C. H. Weaver, Coyt Wilson.

**Orientation—**

C. W. Edwards, O. W. Bickel, Cantrell, Cater, Clercie Edwards, Foy, J. M. Richardson, H. F. Vallery.

**Portrait Committee—**

Sarver, Applebee, Funchess, Berta Dunn, Pattie Haney, A. W. Reynolds.

**Professional Societies—**

E. V. Smith, Foy, Hargreaves, Spann.

**Religious Life—**

Bailey, Blackstone, Frank Davis, John Deloney, Godard, four student members.

**Registration—**

C. W. Edwards, Anson, Applebee, Ruth Brittin, Cargile, Coker, Clercie Edwards, Foster, Hines, Jeannetta Land, Mays, DeWitt Mullins, Parker, Patrick, Simmons, Spencer, Howard Strong, Tinch, Tyson, Umbach, Wade, Wingate.

**Research Grant-in-Aid—**

McIntyre, W. V. Parker (Ex-Officio), Kendrick, McCann, Ottis, T. B. Peet, C. R. Saunders, Spencer, Ernest Williams, Brenkert.

**Scholarship—**

Greene, Brenkert, Cargile, Cater, Norton, Sturkie, Mrs. Robert L. Chesnutt (Secretary).

**Social Life—**

Cater, Beard, Frank Davis, Foy, Lamar, Jeannetta Land.

**Student Publications—**

Foy, Brackeen, Burnett, W. T. Ingram, five student members.

**Students Use of English—**

The Deans and the Head of the English Department.

**Traffic Committee—**

Funchess, R. G. Pitts, S. L. Thompson, Wilson, Bickel, Abney (Ex-Officio), three student members.

**Women Students—**

Cater, Spidle.

# AUBURN UNIVERSITY

## OFFICERS OF ADMINISTRATION

1960-1961

(The first date after the title indicates the year of first appointment to any position in the institution; the second, the year of appointment to present rank.)

DRAUGHON, RALPH BROWN, B.S., M.S., LL.D. \_\_\_\_\_ *President*, 1931, 1948  
ANDERSON, ROBERT C., B.S., M.A., Ph.D. \_\_\_\_\_ *Executive Vice-President*, 1961  
VALLERY, H. F., B.A., M.A., M.A., Ed.D. \_\_\_\_\_ \* *Assistant to the President*, 1950, 1960

### GENERAL OFFICERS

HUNTLEY, MICHEL C., B.A., M.A., LL.D., Litt.D. \_\_\_\_\_ *Dean of Faculties*, 1949  
BEARD, G. W. (JEFF), B.S. \_\_\_\_\_ *Director of Athletics*, 1937, 1951  
BRACKEEN, L. O., B.S. \_\_\_\_\_ *Director of Public Information*, 1934, 1948  
BROWN, MORGAN W., B.S., M.D. \_\_\_\_\_ *Medical Director, Student Health*, 1950  
CANTRELL, CLYDE HULL, A.B., M.A., A.B.L.S., Ph.D. \_\_\_\_\_ *Director of Libraries*, 1944  
CATER, KATHARINE COOPER, A.B., M.A., M.S., Litt.D. \_\_\_\_\_ *Dean of Women  
and Social Director*, 1946  
EDWARDS, CHARLES WESLEY, B.S., M.A. \_\_\_\_\_ *Registrar*, 1927, 1938  
FUNCHESS, LINWOOD E., B.S., M.S. \_\_\_\_\_ *Director of Buildings and Grounds*, 1957  
GEARING, CHARLES E., B.E.E. \_\_\_\_\_ *Director of Engineering Extension*, 1958  
INGRAM, WILLIAM TRAVIS \_\_\_\_\_ *Business Manager and Treasurer*, 1925, 1953  
JONSON, W. C. JR., B.S. \_\_\_\_\_ *Director of Auburn Research Foundation*, 1956, 1959  
NORTON, PAUL MADDUX, A.B., M.S. \_\_\_\_\_ *Coordinator of Veterans Affairs*, 1945  
POORE, WILLIAM D., B.S., M.A. \_\_\_\_\_ *Director, Nonacademic Personnel*, 1957  
SARVER, JOSEPH B., B.S. \_\_\_\_\_ *Executive Secretary, Alumni Office  
Director, A U Development Program*, 1951, 1960  
SAUNDERS, ROBERT L., B.S., M.S., Ed.D. \_\_\_\_\_ *Director of Correspondence  
Study Program*, 1957

### DEANS AND HEADS OF SCHOOLS

ALLEN, ROGER WILLIAMS, B.S., M.S., M.A., Ph.D. \_\_\_\_\_ *Dean, School of  
Science and Literature*, 1928, 1941  
BRENKERT, KARL, JR., B.S.E., M.S., Ph.D. \_\_\_\_\_ *Assistant Dean, School of  
Engineering*, 1960  
COKER, SAMUEL TERRY, B.S., M.S., Ph.D. \_\_\_\_\_ *Dean of Pharmacy*, 1959  
DUNLAP, JOHN F., Col., USMC, B.S. \_\_\_\_\_ *Professor of Naval Science and  
the Commanding Officer*, 1959  
FOY, JAMES E., B.A., M.A. \_\_\_\_\_ *Dean, Student Affairs*, 1950, 1960  
GREENE, JAMES E., D.V.M., M.S. \_\_\_\_\_ *Dean, School of Veterinary Medicine*, 1937, 1958  
HURST, SAMUEL T., B.S., M.A. \_\_\_\_\_ *Dean, School of Architecture and The Arts*, 1957  
LOCKETT, JOHN, Col., Artillery, Ph.B. \_\_\_\_\_ *Professor, Military Science  
and the Commandant*, 1957

\* Temporary.

PARKER, WILLIAM VANN, A.B., M.A., Ph.D.	Dean, Graduate School, 1950, 1953
PIERCE, TRUMAN M., Ph.B., M.A., Ph.D.	Dean, School of Education, 1955
PUMPHREY, FRED H., B.A., B.E.E., E.E.	Dean, School of Engineering, 1958
SAUNDERS, C. R., B.S., M.S., Ph.D.	Dean, School of Chemistry, 1924, 1950
SIMMONS, CHARLES F., B.S., M.S., Ph.D.	Associate Dean, School of Agriculture, 1946, 1951
SMITH, EDWIN VIRGINIUS, B.S., M.S., Ph.D.	Dean, School of Agriculture, 1929, 1951
SPIDLE, MARION WALKER, B.S., M.A.	Dean, School of Home Economics, 1938, 1942
STRONG, HOWARD, B.S., M.S., Ed.D.	Assistant to Dean for Pre- Engineering, 1947, 1960
WILLIAMS, RALPH I., Col., USAF, B.A., M.A.	Professor of Air Science and the Commandant, 1960
WILSON, COYT T., B.S., M.S., Ph.D.	Assistant Dean, School of Agriculture, 1938, 1951

## AGRICULTURAL EXPERIMENT STATION

SMITH, EDWIN VIRGINIUS, B.S., M.S., Ph.D.	Director, 1929, 1951
WILSON, COYT T., B.S., M.S., Ph.D.	Associate Director, 1938, 1955
SIMMONS, CHARLES F., B.S., M.S., Ph.D.	Assistant Director, 1946, 1955

## ENGINEERING EXPERIMENT STATION

PUMPHREY, FRED H., B.A., B.E.E., E.E.	Director, 1958
BRENKERT, KARL, JR., B.S.E., M.S., Ph.D.	Assistant Director, 1960

## AGRICULTURAL AND HOME ECONOMICS EXTENSION

YORK, E. T., B.S., M.S., Ph.D.	Director of Agricultural Extension Service, 1959
ROBERTSON, FRED R., JR., B.S., M.S., DPA	Associate Director of Agricultural Extension Service, 1959, 1960
COLEMAN, MARY E., B.S., M.S.	State Home Demonstration Agent, 1936, 1958

## EDUCATIONAL TELEVISION

**WEGENER, E. P., B.S.	Director, Educational Television, 1954
DUNLOP, JOHN W., B.A.	Acting Director, Educational Television, 1955, 1960

\*\* On leave.

## OFFICERS OF INSTRUCTION

1960-1961

(The first date after the title indicates the year of first appointment to any position in the institution; the second, the year of appointment to present rank. Effective date of resignation shown only for persons whose names were not carried in a previous catalog.)

- DRAUGHON, RALPH BROWN, B.S., M.S., LL.D. *President*, 1931, 1948
- ANDERSON, ROBERT C., B.S., M.A., Ph.D. *Executive Vice-President*, 1961
- VALLERY, H. F., B.A., M.A., M.A., Ed.D. *\*Assistant to the President*, 1950, 1960
- HUNTLEY, MICHEL C., B.A., M.A., LL.D., Litt.D. *Dean of Faculties*, 1949
- ABNEY, LOUIS O. *Associate Professor of Art*, 1950, 1959  
B.App. Art, M.App.Art, Auburn University.
- ADAMS, CLEVELAND L. *Head Professor of Textile Technology*, 1952  
B.T.E., Auburn University.
- ADAMS, FRED *Associate Professor of Soils*, 1955  
B.S., M.S., Louisiana State; Ph.D., California.
- ADAMS, ROBERT M. *Instructor in English*, 1959, 1960  
B.S., Northern State Teachers College; B.D., Garrett Theological Seminary.
- ALEXANDER, JEFF MCF. *Assistant Professor of Architecture*, 1960  
A.B., Winthrop College; M.A., Columbia; Art Students League, N.Y.; School of Art Institute, Chicago; Atelier Ziegler and Academie Montmartre, Paris.
- ALGER, ROBERT C. *Instructor in English*, 1958, 1960  
B.A., Minnesota.
- \*ALLISON, ELEANOR *Instructor in Mathematics*, 1953, 1958  
B.S., Western Carolina College; M.S., Auburn University.
- \*ALVORD, MARY K. *Instructor in Mathematics*, 1942  
B.S., Illinois.
- \*AMACHER, ANNE W. *Instructor in English*, 1960  
B.A., Agnes Scott; M.A., Radcliffe; Ph.D., New York University. (Resigned Effective May 31, 1960)
- AMACHER, RICHARD E. *Associate Professor of English*, 1957  
A.B., Ohio; Ph.D., Pittsburgh.
- AMLING, HARRY J. *Associate Professor of Horticulture*, 1959  
B.S., Rutgers; M.S., Delaware; Ph.D., Michigan State.
- ANDERSON, ROBERT GRAHAM *Assistant Professor of Architecture*, 1958  
B.Arch., North Carolina State; M.Arch., Harvard.
- ANSON, CHARLES P. *Head Professor of Economics, Business Administration and Sociology*, 1946  
B.S., Wisconsin; M.A., Ohio State; Ph.D., North Carolina.
- ANTHONY, WILSON B. *Professor of Animal Science*, 1953, 1955  
B.S., Illinois; M.S., Texas A. & M.; Ph.D., Cornell.
- APPLEBEE, FRANK W. *Head Professor of Art*, 1926, 1932  
Diploma, Massachusetts College of Art; B.S., M.App.Art, Auburn University.
- ARANT, FRANK S. *Head Professor of Zoology and Entomology*, 1926, 1949  
B.S., M.S., Auburn University; Ph.D., Iowa State.
- ARNOLD, DOROTHY DEAN *Associate Professor of Home Economics*, 1928, 1957  
B.S., Peabody; M.A., Columbia.
- ARTHUR, B. WAYNE *Associate Professor of Zoology-Entomology*, 1951, 1960  
B.S., M.S., Auburn University; Ph.D., Wisconsin.
- \*ASHWORTH, EDWIN R. *Assistant Professor of Industrial Management*, 1960  
B.S.M.E., M.S.M.E., Purdue.
- ASKEW, RAYMOND F. *Assistant Professor of Physics*, 1960  
B.S., Birmingham-Southern; M.S., Ph.D., Virginia.
- ATKINS, ALWYN J. *Professor of Education*, 1956, 1960  
B.S., Chattanooga; M.S., Ph.D., North Carolina.

\* Temporary.

- ATKINS, GEORGE A. \_\_\_\_\_ Instructor in Men's Physical Education, 1956  
B.S., Auburn University.
- ATKINS, LEAH R. \_\_\_\_\_ Instructor in History, 1958, 1960  
B.S., M.A., Auburn University.
- ATTLEBERGER, FREDERICK RAYMOND \_\_\_\_\_ Instructor in Laboratory  
M.T., Franklin School of Science and Arts. Technology, 1941, 1944
- ATTLEBERGER, MARIE H. \_\_\_\_\_ Associate Professor of Bacteriology, 1949, 1959  
D.V.M., M.S., Auburn University.
- AUTREY, KENNETH MAXWELL \_\_\_\_\_ Head Professor of Dairy Science, 1947  
B.S., Louisiana State; M.S., Ph.D., Iowa State.
- BAGWELL, JAMES E. \_\_\_\_\_ Assistant Professor of Economics and Business  
B.S., M.S., North Carolina. Administration, 1950, 1956
- BAILEY, WILFORD S. \_\_\_\_\_ Head Professor of Pathology and Parasitology, 1942, 1950  
D.V.M., M.S., Auburn University; D.Sc., Johns Hopkins.
- BAKER, JUNE MARSHALL \_\_\_\_\_ Associate Professor of Chemistry, 1957  
B.S., Missouri Valley College; M.S., Ohio State; Ph.D., Missouri.
- BALCH, BILLY W. \_\_\_\_\_ Instructor in Economics and Business Administration, 1960  
B.S., Florence State College; M.B.A., Alabama.
- BALL, RICHARD WILLIAM \_\_\_\_\_ Professor of Mathematics, 1954, 1960  
B.A., M.A., Ph.D., Illinois.
- BALL, RURA O. \_\_\_\_\_ Assistant Professor of Engineering Graphics, 1958, 1959  
B.S.M.E., Illinois.
- BARKER, TROY A. \_\_\_\_\_ Associate Professor of Military Science, 1959  
B.S., Alabama; Lieutenant Colonel, Artillery.
- BARKSDALE, JELKS \_\_\_\_\_ Associate Professor of Chemistry, 1946, 1957  
B.S., M.S., Alabama; Ph.D., Columbia.
- BARKSDALE, ROBBIE A. \_\_\_\_\_ Catalog Librarian and Instructor, 1949, 1959  
A.B., Alabama College; B.S.L.S., M.S.L.S., Columbia.
- \*BARNETT, BILL M. \_\_\_\_\_ Instructor in English, 1957, 1958  
B.A., Auburn University.
- BARRETT-LENNARD, G. T. \_\_\_\_\_ Assistant Professor of Psychology, 1959  
B.S., B.A., University of Western Australia; Ph.D., Chicago.
- BASKERVILL, MARGARET \_\_\_\_\_ Assistant Professor of Mathematics, 1943, 1959  
A.B., Randolph-Macon; M.A., Michigan; Ph.D., Auburn University.
- BASORE, CLEBURNE A. \_\_\_\_\_ Head Professor of Chemical Engineering, 1920, 1938  
B.S., M.S., Auburn University; M.A., Michigan; Ph.D., Columbia.
- \*BASS, MERLE F. \_\_\_\_\_ Instructor in Mathematics, 1957, 1958  
B.S., Troy State College; M.S., Auburn University.
- BEALS, HAROLD O. \_\_\_\_\_ Assistant Professor of Forestry, 1960  
B.S.F., M.S., Ph.D., Purdue.
- BEARD, G. W. (JEFF) \_\_\_\_\_ Head Professor of Physical Education, 1937, 1951  
B.S., Auburn University.
- BEASON, DONALD B. \_\_\_\_\_ Instructor in Economics and Business Administration, 1960  
B.S., M.B.A., Alabama.
- BEAUCHAMP, BESS \_\_\_\_\_ Catalog Librarian and Instructor, 1960  
A.B., Hendrix College; M.A., Claremont Graduate School; M.A.L.S., George Peabody College.
- \*\*BECK, ESTHER L. \_\_\_\_\_ Assistant Professor of Economics  
B.A., Illinois; M.A., Columbia. and Business Administration, 1950, 1955
- BEESON, EDWARD, JR. \_\_\_\_\_ Visiting Assistant Professor of Physics, 1960  
B.S., M.S., Emory; Ph.D., Georgia Institute of Technology. (Resigned Effective September 15, 1960.)
- BELCHER, OBA B. \_\_\_\_\_ Instructor in Men's Physical Education, 1959  
B.S., Florence State College.
- BELSER, THOMAS ARVIN, JR. \_\_\_\_\_ Assistant Professor of History, 1957  
B.A., M.A., Ph.D., Vanderbilt.

\* Temporary.

\*\* On leave.

- \*<sup>o</sup>BENSON, CARL.....Associate Professor of English, 1947, 1952  
B.A., M.A., Texas; Ph.D., Illinois.
- \*BENSON, MARTHA B.....Instructor in English, 1960  
B.A., Illinois. (Resigned Effective May 31, 1960.)
- BENTLEY, CHARLES A.....Associate Professor of Music, 1949, 1957  
B.S., Baldwin-Wallace; M.A., Professional Diploma "Specialist in Music Education," Columbia.
- BILLS, ROBERT E.....Head Professor of Psychology, 1956  
B.S., Western Kentucky State; M.A., Kentucky; Ed.D., Teachers College, Columbia.
- \*BINKLEY, ADDISON LARRY.....Instructor in Mathematics, 1959  
B.A., Lambuth College.
- BLACKSTONE, J. HOMER.....Professor of Agricultural Economics, 1938, 1953  
B.S., M.S., Auburn University.
- BLAKE, GEORGE H., JR.....Associate Professor of Zoology-Entomology, 1947, 1957  
B.S., M.S., Auburn University; Ph.D., Illinois.
- BLAIR, REBECCA L.....Instructor in Zoology, 1960  
B.S., Florence State College.
- BLAENEY, WILLIAM G. G.....Assistant Professor of Civil Engineering, 1958  
B.E., Nova Scotia Technical College; M.Sc., Ohio State.
- BLISS, LEORA B.....Assistant Professor in Home Economics, 1957  
B.S., Kansas State; M.S., Oregon State.
- BLISS, R. L.....Assistant Professor of Sociology, 1957, 1959  
B.A., Mount Union College; M.S., Kentucky.
- BLUE, NOEL D.....Instructor of Naval Science, 1957  
Fire Control Technician First Class (SS), U.S. Navy.
- BONIN, JOSEPH.....Associate Professor of Economics and Business  
B.S., Spring Hill College; M.A., Ph.D., Louisiana State. Administration, 1960
- BORDEAUX, VESTAL H.....Instructor of Naval Science, 1960  
Fire Control Technician First Class, U.S. Navy.
- BOSTON, ROBERT O.....Associate Professor of Economics  
B.S., M.S., Alabama. and Business Administration, 1950, 1959
- BOTTOMS, DAVID NEWTON.....Associate Professor of Agricultural Education, 1941, 1947  
B.S., M.S., Auburn University.
- BOVINETT, LEE R.....Assistant Professor of Air Science, 1960  
B.S., Florida State; Captain, United States Air Force.
- BRADBERRY, GEORGE.....Instructor in Men's Physical Education, 1951  
B.S., Georgia.
- BRADLEY, DAVID W.....Assistant Professor of Naval Science, 1959  
B.A., Princeton; Lieutenant, U.S. Naval Reserve.
- BREYER, BERNARD R.....Associate Professor of English, 1949, 1955  
B.A., Vanderbilt; M.A., Louisiana State; Ph.D., Virginia.
- BRINEY, JAMES R. III.....Manager, Computer Laboratory, 1959, 1960  
B.S., Auburn University.
- BRISSON, DAVID WINSLOW.....Assistant Professor of Architecture, 1958  
B.F.A., Rhode Island School of Design; M.F.A., Ohio.
- \*BRISSON, HARRIET ELDREDGE.....Instructor in Architecture, 1958  
B.F.A., Rhode Island School of Design; M.F.A., Ohio.
- BRITTIN, NORMAN A.....Professor of English, 1948, 1954  
A.B., A.M., Syracuse; Ph.D., Washington.
- BROKAW, MARY K.....Catalog Librarian and Instructor, 1957, 1959  
A.B., Ohio; M.A., Chicago; B.S.L.S., Drexel Institute of Technology
- BROWN, EDNA EARLE.....Serials Librarian and Instructor, 1952, 1959  
A.B., Peabody College for Teachers; B.S.L.S., Illinois.
- BROWN, HELEN WEAVER.....Instructor in Economics and  
B.S., Alabama College; M.Ed., Auburn University. Business Administration, 1959, 1960

\* Temporary.

\*\* On leave.



- BRYANT, WARD TILLEY.....Assistant Professor of Industrial Management, 1951, 1953  
B.I.M., Auburn University; M.S., Georgia Tech.
- BUDENSTEIN, PAUL P.....Assistant Research Professor of Physics, 1958  
B.A., Temple; M.S., Ph.D., Lehigh.
- BUNGER, WILLIAM B.....Associate Research Professor of Chemistry, 1949, 1957  
B.S., Washburn; M.S., Ph.D., Kansas State.
- BURKHARDT, E. WALTER.....Professor of Architecture, 1929  
B.S.Arch., Washington State; M.S.Arch., Columbia.
- BURNETT, PAUL C.....Associate Professor of Journalism, 1948, 1954  
B.A., Louisiana Polytechnic Institute; M.A., Louisiana State.
- BURNS, MOORE J.....Associate Professor of Physiology and Pharmacology, 1950, 1956  
B.S., M.S., Auburn University; Ph.D., Purdue.
- BURTON, LEONARD PATILLO.....Professor of Mathematics, 1954, 1960  
A.B., M.A., Alabama; Ph.D., North Carolina.
- BUTLER, ALLEN DEXTER.....Assistant Professor of English, 1927, 1955  
A.B., M.A., North Carolina.
- BUTZ, ROBERT K.....Associate Professor of Mathematics, 1950, 1958  
B.S., Colorado State; M.S., Ph.D., Georgia.
- CAIN, MYRA HOBBS.....Instructor in English, 1960  
B.A., M.A.T., Vanderbilt.
- CAIRNS, ELDON J.....Professor of Plant Pathology, 1954, 1955  
B.A., M.A., California (Los Angeles); Ph.D., Maryland.
- CALLAWAY, A. BYRON.....Professor of Education, 1956, 1960  
A.B., B.S., Southwest Missouri State College; M.Ed., Ed.D., Missouri.
- \*CANNON, LENA.....Assistant Professor of Home Economics, 1948, 1953  
B.S., M.S., West Virginia.
- CANNON, ROBERT Y.....Professor of Dairy Science, 1948, 1960  
B.S., Iowa State; M.S., Ohio State; Ph.D., Wisconsin.
- CANTRELL, CLYDE HULL.....Director of Libraries and Professor, 1944, 1959  
A.B., M.A., A.B.L.S., North Carolina; Ph.D., Illinois.
- CAPPS, JULIUS D.....Research Professor of Chemistry, 1934, 1953  
B.S., M.S., Auburn University; Ph.D., Nebraska.
- CARLOVITZ, GILES HOMER.....Professor of Electrical Engineering, 1928, 1934  
B.E.E., E.E., Auburn University.
- CARR, HOWARD E.....Head Professor of Physics, 1948, 1953  
B.S., Auburn University; M.A., Ph.D., Virginia.
- CARRUTH, SARA ANDERSON.....Assistant Professor of English, 1952, 1958  
A.B., North Carolina; M.A., Ph.D., Chicago.
- CHADWICK, JAMES H.....Associate Professor of Electrical Engineering, 1949  
B.S., U.S. Naval Academy; M.S.E.E., Columbia.
- CHASTAIN, ELIJAH D., JR.....Associate Professor of Agricultural Economics, 1956  
B.S., Clemson; M.S., Cornell; Ph.D., Purdue.
- \*CHENEY, ILA S.....Instructor in English, 1957, 1959  
B.A., Union University.
- CHENEY, LOUIS T.....Instructor in Art, 1957  
B.F.A., Washington.
- CHERRY, JAMES McEWEN, JR.....Bibliographer and Instructor, 1957, 1960  
A.B., Vanderbilt; M.A.L.S., Peabody College for Teachers.
- CHRISTEN, HAROLD EDWIN.....Professor of Forestry, 1946, 1951  
B.S., Connecticut; M.F., Yale.
- CLARK, C. H.....Head Professor of Physiology and Pharmacology, 1953  
B.S., D.V.M., Washington State; M.Sc., Ph.D., Ohio State.
- CLINGEMPEEL, WILLIAM D.....Assistant Professor of Military Science, 1960  
B.S., Virginia Military Institute; Captain, Signal Corps.
- COBB, CHARLES N.....Associate Professor of Industrial Management, 1930, 1944  
B.S., Clemson; B.I.E., M.S., Auburn University.

- COBB, HOWELL EDWARD. *Associate Professor of Architecture*, 1954  
B.S.Arch., B.Arch., Georgia Institute of Technology; M.S.Arch., Kansas State.
- COLLINS, BASIL K. *Associate Professor of Engineering Graphics*, 1936, 1955  
B.S., B.M.E., M.S., Auburn University.
- COLLINS, JAMES ROBERT. *Assistant Professor of Music*, 1957  
B.S., M.A., Alabama.
- CONARY, FRANKLIN M. *Instructor, Army ROTC*, 1957  
B.S., Auburn University; Master Sergeant, U.S. Army.
- CONNALLY, JOSEPH. *Instructor in Men's Physical Education*, 1952  
B.S., Georgia.
- CONSOLVO, JOHN W. *Assistant Professor of Military Science and Tactics*, 1958  
B.A., Virginia Military Institute; Major, Armor.
- \*COOK, CAMILLE W. *Instructor in Economics and Business Administration*, 1948  
A.B., LL.B., Alabama.
- COOK, J. SYDNEY, JR. *Assistant Professor of Economics and Business Administration*, 1947, 1948  
B.S., Auburn University; LL.B., Alabama.
- COOPER, ARTHUR WIGGINS. *Research Lecturer, Agricultural Engineering*, 1939, 1957  
B.S., M.S., Auburn University; Ph.D., Michigan State.
- COPPEDGE, WILLIAM H. *Associate Professor of Industrial Management*, 1928, 1944  
B.S., Oklahoma A. & M.; M.S., Auburn University.
- COTTIER, GEORGE JOHN. *Professor of Poultry Science*, 1930, 1949  
B.S., D.V.M., Auburn University; M.A., Missouri.
- COX, JAMES H. *Assistant Professor of Textile Technology*, 1957  
B.S.T.C., M.S.T., Georgia Tech.
- COX, JULIUS GRADY. *Associate Professor of Mechanical Engineering*, 1957  
B.M.E., M.S., Auburn University.
- CRAFTS, ARTHUR G. *Assistant Professor of Physics*, 1944  
A.B., Georgia; M.S., Cornell.
- CRAWFORD, RICHARD P. *Assistant Professor of Bacteriology*, 1956, 1960  
D.V.M., Texas A. & M.
- \*CRENSHAW, EDWARD JOSEPH. *Instructor of Mechanical Engineering*, 1960  
B.S.M.E., Auburn University.
- CREWS, ROBERT T. *Instructor in Laboratory Technology*, 1959  
B.S., Auburn University.
- \*CROCKER, GEORGE T. *Instructor in Mathematics*, 1956, 1957  
B.S., Union University; M.S., Auburn University.
- CROSTHWAITE, S. L. *Professor of Air Science*, 1956  
B.S., M.S., U. of Maryland; Colonel, United States Air Force.
- CULVER, HUBERT R. *District Supervisor of Vocational Agriculture and Itinerant Teacher Trainer*, 1945, 1958  
B.S., M.S., Auburn University.
- CURL, ELROY ARVEL. *Associate Professor of Plant Pathology*, 1954, 1958  
B.S., Louisiana Polytechnic Institute; M.S., Arkansas; Ph.D., Illinois.
- CURRENT-GARCIA, EUGENE. *Professor of English*, 1947, 1952  
B.A., M.A., Tulane; A.M., Ph.D., Harvard.
- DACRES, WILLIAM G. *Professor of Bacteriology*, 1956, 1959  
A.B., M.S., Tennessee; Ph.D., Rice Institute.
- DALRYMPLE, HOUGHTON BAKER. *Assistant Professor of Philosophy*, 1960  
B.A., M.A., Ph.D., Texas.
- DALTON, W. THEO. *Head Professor of Elementary Education*, 1951, 1956  
B.S., Alabama; M.Ed., Duke; Ph.D., George Peabody College for Teachers.
- DANNER, MAURICE J. *Professor of Agricultural Economics*, 1943, 1957  
B.S., Texas Tech; M.S., Tennessee.
- DARDEN, PAUL ALBERT. *Assistant Professor of Building Technology*, 1958  
B.Arch., Auburn University.
- DARNELL, DONALD. *Assistant Professor of Education*, 1960  
B.S., M.S., Southern Illinois University.

\* Temporary.



- DAVIS, DONALD E. *Professor of Botany*, 1947, 1955  
B.Ed., Ped.D., Eastern Illinois State Teachers College; M.S., Ph.D., Ohio State.
- DAVIS, FRANK B. *Head Professor of Speech*, 1948, 1956  
A.B., Hendrix; M.A., Iowa; Ph.D., Louisiana State.
- DAVIS, NORMAN DUANE *Assistant Professor of Botany*, 1958  
B.S., Georgia; M.S., Ph.D., Ohio State.
- DAVIS, W. L. *Head Professor, Secondary Education and Coordinator of Curriculum and Instruction*, 1951, 1958  
B.S., Middle Tennessee Teachers; M.A., Peabody College for Teachers; Ed.D., Columbia.
- DAWSON, LYNDON E., JR. *Instructor in Economics and Business Administration*, 1960  
B.S., M.B.A., Louisiana State.
- DAWSON, MARGARET *Instructor in Home Economics*, 1956  
B.S., Florida State; M.S., Auburn University.
- DEAN, H. SHELBY *Assistant Professor of Building Technology*, 1954, 1956  
B.Arch., Auburn University.
- DELONEY, JOHN E. *Associate Professor of Agricultural Education*, 1950, 1954  
B.S., M.S., Auburn University; Ed.D., Teachers College, Columbia.
- DENDY, EMMA S. *Catalog Librarian and Instructor*, 1960  
A.B., Flora MacDonald College; B.S.L.S., George Peabody College; M.S.L.S., North Carolina.
- DENDY, JOHN S. *Professor of Zoology and Entomology*, 1947, 1957  
B.S., Presbyterian; M.A., North Carolina; Ph.D., Michigan.
- DEVALL, WILBUR B. *Head Professor of Forestry*, 1946, 1951  
B.S., Syracuse; M.S., Florida.
- DIAMOND, DOUGLAS L. *Instructor of Pathology and Parasitology*, 1960  
D.V.M., M.S., Ontario Veterinary College.
- \*DIXON, EDMOND DALE *Instructor in Mathematics*, 1958, 1960  
B.S., Memphis State; M.S., Auburn University.
- DILWORTH, BEN P. *District Supervisor of Vocational Agriculture and Itinerant Teacher Trainer*, 1946, 1958  
B.S., Mississippi State; M.S., Auburn University.
- DIXON, JOE BORIS *Assistant Professor of Soils*, 1959  
B.S., M.S., Kentucky; Ph.D., Wisconsin.
- DJORDJEVIC, BRANIMIR D. *Professor of Aeronautical Engineering*, 1959  
Cand. Ing., Dipl. Ing., University of Belgrade.
- DONAHOO, HARRIETTE L. *Associate Professor of Women's Physical Education*, 1943, 1949  
B.S., Alabama College; M.A., Teachers College, Columbia.
- DONNELLY, EDWARD DANIEL *Professor of Agronomy*, 1951, 1959  
B.S., M.S., Auburn University; Ph.D., Cornell.
- DOOLEY, VINCENT J. *Instructor in Men's Physical Education*, 1956  
B.S., Auburn University.
- \*DORMAN, COY *Instructor in Economics and Business Administration*, 1959  
A.B., East Carolina College; M.S., Tennessee.
- \*DORNE, MELBA *Instructor in Speech*, 1957  
B.S., Western Kentucky State; M.Ed., Auburn University.
- DORNE, WILLIAM P. *Assistant Professor of Education*, 1950, 1958  
B.S., Rutgers; M.A., Columbia; Ph.D., Florida.
- DRAGOIN, ANTHONY *Assistant Professor of Men's Physical Education*, 1951, 1955  
B.S., M.S., Auburn University.
- DRAKE, ALBERT E. *Associate Professor of Botany*, 1959  
B.S., M.S., Kentucky; Ph.D., Illinois.
- DRAPER, EVELYN B. *Instructor in Pharmacy*, 1959, 1960  
B.S., Home Economics, Auburn University; B.S., Pharmacy, Auburn University.
- DREWRY, GALEN N. *Head Professor of Educational Administration*, 1960  
B.A., Emory & Henry; M.A., North Carolina; Ed.D., George Peabody College for Teachers.
- DUMAS, WILLIAM T., JR. *Associate Professor of Agricultural Engineering*, 1946, 1955  
B.S., M.S., Auburn University.

- DUNLAP, JOHN F. *Professor of Naval Science*, 1959  
B.S., Clemson College; Colonel, U.S. Marine Corps.
- DUPREE, DANIEL E. *Assistant Professor of Mathematics*, 1957, 1960  
B.S., Louisiana Polytechnic Institute; Ph.D., Auburn.
- DUSI, JULIAN L. *Associate Professor of Zoology and Entomology*, 1949, 1953  
B.S., M.S., Ph.D., Ohio State.
- EAVES, JOEL H. *Instructor in Men's Physical Education*, 1949  
B.S., Auburn University.
- EDEN, WILLIAM G. *Professor of Entomology*, 1940, 1953  
B.S., M.S., Auburn University; Ph.D., Illinois.
- EDGAR, S. ALLEN. *Professor of Poultry Science*, 1947, 1950  
A.B., Sterling; M.S., Kansas State; Ph.D., Wisconsin.
- EDWARDS, BARBARA FREDERICK *Assistant Professor of Psychology*, 1957  
A.B., Western Michigan College of Education; M.A., Michigan.
- ELIZONDO, YNDALECIO ANDRES. *Associate Professor of Mechanical Engineering*, 1927, 1943  
B.C.E., B.M.E., M.S., Auburn University.
- \*EL-KAYAR, ABD ED-MAGUID *Assistant Professor of Mechanical Engineering*, 1960  
B.S.M.E., Alexandria Univ.; M.S.M.E., Johns Hopkins; Ph.D., Cornell.
- ELLIS, THEO H. *Associate Director, Computer Lab*, 1960  
A.B., B.S.A., M.S.A., Ph.D., University of Florida.
- ELLISOR, MILDRED R. *Assistant Professor of Education*, 1958  
A.B., Huntingdon College; M.A., Ed.D., Columbia.
- ENSMINGER, LEONARD E. *Professor of Soils*, 1944, 1953  
B.S., Missouri; Ph.D., Illinois.
- EVANS, DORIS. *Instructor in Economics and Business Administration*, 1959  
B.S., Florence State College; M.A., Peabody.
- ERWIN, CLYDE L. *Assistant Professor of Economics and Business Administration*, 1960  
B.B.A., M.B.A., University of Mississippi.
- EVANS, LAWRENCE E. *Professor of Small Animal Surgery and Medicine*, 1955, 1960  
D.V.M., M.S., Kansas State College.
- EVANS, ROBERT K. *Associate Professor of Education and Director of Intramural Sports for Men*, 1942  
B.S., M.S., North Carolina State.
- EVERNDEN, WILLIAM LYLE *Assistant Professor of Education*, 1960  
B.A., B.Ed., Saskatchewan (Canada); M.S., Ed.D., Tennessee. (Resigned Effective September 15, 1960.)
- FARISH, PRESTON T. *Assistant Professor of Animal Science*, 1953, 1958  
B.S., Troy State College; M.S., Ph.D., Auburn University.
- FAULK, RUTH T. *Assistant Professor of English*, 1947, 1955  
A.B., Huntingdon; M.A., Auburn University.
- \*FEARN, RICHARD L. *Instructor in Physics*, 1960  
B.S., Auburn. (Resigned Effective August 31, 1960.)
- FEASTER, WILLIAM M. *Assistant Professor of Electrical Engineering*, 1956, 1959  
B.E.E., M.E.E., Auburn University.
- FINDLEY, MARSHALL E. *Associate Research Professor of Chemical Engineering*, 1958  
B.S., Texas A. & M.; M.S., Institute of Paper Chemistry; Ph.D., Florida.
- \*FINDLEY, SUSAN *Instructor in History*, 1960  
B.A., Agnes Scott; M.A., Emory.
- FISHER, HOMER S. *Associate Professor of Ornamental Horticulture*, 1935, 1948  
B.S., Auburn University; B.L.A., Massachusetts.
- FITZGERALD, THEODORE C. *Head Professor of Anatomy and Histology*, 1940, 1948  
D.V.M., M.S., Ohio State.
- FITZPATRICK, BEN, JR. *Assistant Professor of Mathematics*, 1952, 1959  
B.S., Auburn University; M.A., Ph.D., Texas.
- FLUKER, BILLIE JOE *Associate Professor of Mechanical Engineering*, 1960  
B.S.E.E., M.S.M.E., Texas A. & M.

\* Temporary.

- FOWLER, HOWARD GILL.....Assistant Professor of Industrial Management, 1957  
B.S., Tennessee Polytechnic Institute; M.Ed., Florida.
- FOY, JAMES E.....Dean, Student Affairs, 1950, 1960  
B.A., M.A., Alabama.
- FRANCIS, ROBERT C., JR.....Instructor in Civil Engineering, 1958, 1960  
B.C.E., Auburn University.
- FRANCIS, WILLIAM H.....Head Professor of Engineering Graphics, 1931, 1959  
B.S., M.S., Auburn University.
- FRANKLIN, CHARLES B., JR.....Assistant Professor of Economics and  
B.S. in B.A., University of Florida; M.S., Florida State. Business Administration, 1960
- \*FRENCH, FRANCES C.....Instructor in Economics and Business Administration, 1960  
B.A., M.S., Louisiana State.
- FRENCH, JOHN D.....Assistant Professor of Physics, 1958  
B.S., M.S., Ph.D., Louisiana State.
- FRISBY, CARL.....Assistant Professor of Economics and Business  
B.S., M.S., Auburn University. Administration, 1953, 1957
- \*FRITZ, PAUL J.....Instructor in Chemistry, 1960  
A.B., Washington University.
- FURUTA, TOKUJI.....Associate Professor of Ornamental Horticulture, 1951  
B.S., M.S., Ph.D., Ohio State.
- GANDY, THOMAS W.....Associate Professor of Agricultural Education, 1950, 1953  
B.S.A., Berry College; B.S., M.S., Auburn University; Ed.D., Illinois.
- GARNER, BILLY O.....Instructor in Economics and Business  
Administration, 1959, 1960  
B.of Aero. Adm., Auburn. (Resigned Effective August 31, 1960.)
- GATEWOOD, JACK E.....Assistant Professor of Air Science, 1958  
B.S., Florida; Captain, United States Air Force.
- GIBBONS, WALTER J.....Professor of Large Animal Surgery and  
D.V.M., M.S., Cornell. Medicine, and Infectious Diseases, 1947, 1955
- GIBSON, CLAUDE L.....Instructor of Naval Science, 1959  
Chief Storekeeper, U.S. Navy.
- GIBSON, HOMER FRANKLIN.....District Supervisor of Vocational Agriculture  
B.S., M.S., Auburn University. and Itinerant Teacher Trainer, 1937, 1958
- GIBSON, ROBERT.....Instructor in Art, 1960  
B.F.A., Carnegie Institute of Technology.
- GILL, WILLIAM ROBERT.....Research Lecturer, Agricultural Engineering, 1957  
B.S., Pennsylvania State; M.S., University of Hawaii; Ph.D., Cornell.
- GLASSCOCK, NELL SKAGGS.....Associate Professor of Home Economics, 1958  
B.S., M.A., Ph.D., Texas Woman's College.
- GLYDE, EDGAR C.....Professor of Music, 1946, 1957  
F.T.C.L.; L.Mus.T.C.L.; L.R.A.M.; L.T.C.L. (London, England).
- \*GODARD, JERRY H.....Assistant Dean, Student Affairs, 1959, 1960  
B.A., Auburn University.
- \*GOLD, JONIS.....Visiting Professor of Art, 1960  
Studied: Art Students League, Pratt Institute, Cooper Union.
- GOLDEN, WILLIAM H.....Instructor in Electrical Engineering, 1959  
B.E.E., Auburn University.
- GOOD, HENRY C.....Professor of Zoology and Entomology, 1924, 1946  
B.S., California; M.S., Ph.D., Cornell.
- GOODMAN, JOHN G.....Associate Professor of Poultry Science, 1939, 1946  
B.S., M.S., Auburn University.
- \*GOODRICK, JEAN.....Instructor in Home Economics, 1952, 1957  
B.S., M.S., Auburn University.
- GOOLSBY, HYRON C.....Assistant Professor of Industrial Laboratories, 1953, 1958  
B.S., M.Ed., Auburn University.

\* Temporary.

- GOSLIN, WILLIAM E. \_\_\_\_\_ Assistant Professor of Botany, 1959  
B.S., M.S., Ph.D., Ohio State.
- \*GOSSEY, GLADYS \_\_\_\_\_ Instructor in English, 1945  
B.S., Northeast Missouri State Teachers; M.S., Auburn University.
- GOSSEY, LEO G. \_\_\_\_\_ Professor of English, 1927, 1933  
B.S., Kirksville State Teachers; Ph.D., Chicago.
- \*\*GRANT, WILLIAM HAROLD \_\_\_\_\_ Assistant Dean, Student Affairs, 1958, 1960  
B.S., Auburn University.
- GRAVES, THELMA \_\_\_\_\_ Assistant Professor of Home Economics, 1942, 1943  
B.S., Auburn University; M.S., Iowa State.
- GRAY, JOHN W. \_\_\_\_\_ Instructor in Speech, 1959  
B.A., Ouachita Baptist College; M.A., Arkansas.
- GREEN, HOWARD W. \_\_\_\_\_ District Supervisor of Vocational Agriculture and  
B.S., M.S., Auburn University. \_\_\_\_\_ Itinerant Teacher Trainer, 1948, 1958
- GREEN, JOHN CHASE \_\_\_\_\_ Assistant Professor of Speech, 1947, 1950  
B.A., Yale; M.S., Southern California.
- GREEN, WALTER LUTHER \_\_\_\_\_ Instructor in Electrical Engineering, 1958  
B.E.E., Auburn University.
- GRITZ, IRVIN B. \_\_\_\_\_ Associate Professor of Economics and Business  
B.S., M.S., Oklahoma A. & M. \_\_\_\_\_ Administration, 1931, 1946
- GROTH, AARON H., JR. \_\_\_\_\_ Associate Professor of Pathology and  
B.S., D.V.M., Auburn University; M.S., Iowa State. \_\_\_\_\_ Parasitology, 1957, 1959
- GUYTON, FAYE E. \_\_\_\_\_ Professor of Zoology and Entomology, 1921, 1938  
B.S., M.S., Ohio State.
- HADAWAY, JOSEPH L. \_\_\_\_\_ Assistant Professor of Military Science and Tactics, 1959  
B.S., Georgia; Captain, Armor.
- HAINES, PAUL \_\_\_\_\_ Professor of English, 1947, 1952  
B.S., Lafayette; M.A., Ohio Wesleyan; Ph.D., New York University.
- HALE, DENNIS P. \_\_\_\_\_ Assistant Professor of Economics and  
B.S., Middle Tennessee State; M.A., Peabody. \_\_\_\_\_ Business Administration, 1957, 1959
- HALE, FRANCES W. \_\_\_\_\_ Assistant Professor in Economics, 1956, 1959  
B.S., Troy State College; M.A., Peabody.
- HALL, JAMES CURTIS \_\_\_\_\_ Professor of Education, 1957, 1960  
A.B., Duke; M.S., Virginia Polytechnic Institute; Ed.D., Teachers College, Columbia.
- \*\*HAMILTON, JOHN WARD \_\_\_\_\_ Assistant Professor of Foreign Languages, 1956  
B.A., M.A., Florida.
- HAMNER, BENNETT B. \_\_\_\_\_ Professor of Aeronautical Engineering, 1960  
B.S.C.E., M.S.A.E., Texas A. & M.
- HANKENSON, EDWARD CRAIG \_\_\_\_\_ Assistant Professor of Music, 1959  
B.M., M.Mus., Eastman School of Music.
- \*HANLEY, WALTER ROBERT \_\_\_\_\_ Instructor in Electrical Engineering, 1959  
B.E.E., Auburn University.
- HANNA, MARK \_\_\_\_\_ Assistant Professor of Economics and Business Administration, 1958  
A.B., Birmingham-Southern.
- HARDIGREE, CRUZ A. \_\_\_\_\_ Assistant Professor of Speech, 1959  
A.B., Puerto Rico; M.S., Michigan; Ph.D., Ohio State.
- HARGREAVES, GEORGE W. \_\_\_\_\_ Professor of Pharmaceutical Chemistry, 1926, 1950  
Ph.C., B.S., M.S., Nebraska.
- HARLAN, RICHARD S. \_\_\_\_\_ Assistant Professor of Physics, 1959  
B.S., U.S. Naval Academy.
- HARRIS, HUBERT \_\_\_\_\_ Associate Professor of Horticulture, 1936, 1948  
B.S., M.S., Auburn University.
- HARROD, DONALD L. \_\_\_\_\_ Assistant Professor of Mechanical Engineering, 1960  
B.S., M.S., University of Kentucky.

\* Temporary.

\*\* On leave.

- HARTMAN, MAURICE A. Associate Professor of Economics and Business Administration, 1956  
B.S., High Point College; M.S., North Carolina; M.B.A., Texas; C.P.A., (North Carolina.)
- HARTWIG, CHESTER W. Associate Professor of Sociology, 1951, 1959  
B.S., M.A., Ph.D., Wisconsin.
- HAUSER, WILLIAM R. Assistant Professor of English, 1958  
B.A., Denison; M.A., Ph.D., Pittsburgh.
- HAYNES, LUTHER J. Professor of Industrial Laboratories, 1945, 1956  
B.S., M.S., Auburn University; Ph.D., Bradley University.
- HAYNSWORTH, EMILIE VIRGINIA Associate Professor of Mathematics, 1960  
A.B., Coker College; M.A., Columbia; Ph.D., North Carolina.
- HAYS, DEAN S. Instructor in Zoology, 1956, 1958  
B.A., Maryville College; M.S., Auburn.
- HAYS, KIRBY LEE Associate Professor of Zoology-Entomology, 1957, 1960  
B.S., M.S., Auburn; Ph.D., Michigan.
- HEAD, WILLIAM FRANCIS, JR. Associate Professor of Pharmaceutical Chemistry, 1960  
B.S., Auburn; M.S., Ph.D., Florida.
- HEARN, RONALD B. Instructor in English, 1960  
B.A., Baylor; M.A., Emory.
- HEATH, MCKENZIE Professor of Small Animal Surgery and Medicine, 1952, 1955  
D.V.M., Auburn University.
- HEIDTMANN, PETER Instructor in English, 1960  
B.A., University of Rochester.
- HELMKE, H. C. Instructor in Foreign Languages, 1959, 1960  
B.A., M.A., Duke.
- HENRY, JOHN FREDERICK Assistant Professor of Industrial Management, 1957  
B.I.M., Auburn University; M.S.I.M., Georgia Tech.
- HERRING, HAL M. Instructor in Men's Physical Education, 1953  
B.S., M.S., Auburn University.
- HERBERT, CHRISTOPHER A. Assistant Professor of Naval Science, 1960  
B.S.M.E., Worcester Polytechnic Institute; Lieutenant Commander, U.S. Navy.
- HILL, A. J. Associate Professor of Economics and Business Administration, 1948, 1952  
B.S., Auburn University; M.B.A., Northwestern.
- HILLIARD, ROY E. Assistant Professor of Air Science, 1959  
B.S., Florida; Captain, United States Air Force.
- HILTBOLD, ARTHUR EDWARD Associate Professor of Soils, 1955, 1959  
B.S., Cornell; M.S., Iowa State; Ph.D., Cornell.
- HINES, WILLIAM M. Associate Professor of Naval Science, 1960  
B.S., Middle Tennessee State College; Commander, U.S. Navy.
- HINTON, WILBUR Professor, Band Director, 1956, 1959  
B.M., M.A., Ed.D., Alabama.
- HOCKING, GEORGE M. Professor of Pharmacognosy, 1951  
B.S., Washington; M.S., Ph.D., Florida.
- HODGKINS, EARL J. Professor of Forestry, 1952, 1957  
B.S., Michigan State; M.S., California; Ph.D., Michigan State.
- HOEPFNER, THEODORE C. Associate Professor of English, 1941, 1956  
B.S., Memphis State; M.A., Vanderbilt.
- HOERLEIN, BENJAMIN F. Head Professor of Small Animal Surgery and Medicine, 1947, 1958  
D.V.M., Colorado A. & M.; Ph.D., Cornell.
- HOLCOMB, KENNETH J. Assistant Professor of Economics and Business Administration, 1959  
B.S., B.A., M.A., Arkansas.
- HOLLADAY, SYLVIA Instructor in English, 1958, 1960  
B.S., Auburn University.
- HOLLAWAY, OTTO Professor of Education, 1945, 1953  
B.S., M.S., Auburn University; Ed.D., Teachers College, Columbia.
- HOLLOWAY, CLARKE L. Instructor in Anatomy and Histology, 1960  
D.V.M., Auburn University.

- HONNELL, MARTIAL ALFRED..... *Professor of Electrical Engineering, 1958*  
B.S.E.E., M.S.E.E., Georgia Tech.
- HOOD, JOSEPH T..... *Professor of Agronomy, 1949, 1959*  
B.S., Georgia; M.S., Purdue; Ph.D., Cornell.
- HOOPER, JAMES DAVID..... *Instructor in Engineering Graphics, 1960*  
B.S.A.E., Auburn University.
- \*HOPPER, EDGAR H..... *Instructor in Mathematics, 1957, 1960*  
A.B., M.A., Tennessee.
- HORNE, ROBERT D..... *Instructor of Small Animal Surgery and Medicine, 1959*  
D.V.M., Auburn University.
- HOURLIHAN, MARTIN..... *Instructor in Economics and Business Administration, 1958*  
B.S., Huntingdon.
- HOVELAND, CARL S..... *Associate Professor of Agronomy, 1959*  
B.S., M.S., Wisconsin; Ph.D., Florida.
- HOWARD, MILFORD K..... *Instructor in Men's Physical Education, 1948*  
B.S., Auburn University.
- HOWES, JAMES R..... *Assistant Professor of Poultry Science, 1960*  
B.S.C., University, London; N.D.A., University, Edinburgh; M.S.C., McGill Univ. Montreal.
- HUDSON, FRED M..... *Associate Professor of Civil Engineering, 1947, 1952*  
B.S.C.E., Purdue; M.S., Princeton.
- HUESTIS, JOHN L..... *Assistant Professor of Military Science and Tactics, 1959*  
B.S., Minnesota; Captain, Artillery.
- HUGHES, GORDON..... *Professor of Physics, 1933, 1946*  
B.A., Oberlin; M.A., Ph.D., Illinois.
- HUIE, VELMA M..... *Reference Librarian and Instructor, 1956, 1960*  
B.S., Jacksonville State College; M.A.L.S., Peabody College for Teachers.
- HUMBURG, JAY M..... *Instructor of Large Animal Surgery and Medicine, 1958*  
B.S., D.V.M., Kansas State College.
- HUMPHREY, BENNY A..... *Instructor in English, 1959*  
B.A., Henderson State Teachers College; M.A., Arkansas.
- HUNT, CHARLES E..... *Instructor of Small Animal Surgery and Medicine, 1960*  
D.V.M., Washington State University.
- HUTSELL, WILBUR HALL..... *Professor of Physical Education, 1921, 1951*  
A.B., Missouri.
- IKENBERRY, ERNEST..... *Research Professor of Mathematics, 1950, 1956*  
A.B., Ottawa; M.A., Kansas; Ph.D., Louisiana.
- IKENBERRY, JANICE T..... *Assistant Professor of Foreign Languages, 1945*  
A.B., Randolph-Macon; M.A., Alabama; Diplomas from Univ. of Poitiers, Univ. of Paris, and Univ. of Geneva.
- INGALLS, ROBERT D..... *Assistant Professor of Mechanical Engineering, 1921, 1955*  
C.E., Cornell; M.S., Auburn University.
- INGRAM, FORNEY H..... *Assistant Professor of Engineering Graphics, 1927, 1957*  
B.S.C.E., M.C.E., Auburn University.
- IRVINE, PAUL..... *Professor of Education and Head, Education*  
A.B., Williamette University; M.A., Ph.D., New York. *Interpretation Service, 1928, 1949*
- IVEY, ELMER R..... *Instructor in Mathematics, 1956*  
A.B., Alabama; M.A., Michigan.
- IVEY, OLIVER T..... *Associate Professor of History, 1928, 1946*  
B.S., M.S., Auburn University; M.A., Chicago.
- IVEY, WILLIAM D..... *Assistant Professor of Zoology and Entomology, 1947, 1951*  
B.S., M.S., Auburn University; Ph.D., Emory.
- JACKSON, BYRON K..... *Assistant Professor of English, 1960*  
B.S., Butler; M.A., Miami.
- \*JACKSON, DONALD EUGENE..... *Assistant Professor of Architecture, 1959*  
B.Arch., North Carolina State; M.Arch., University of Pennsylvania.
- JACKSON, ELINOR..... *Instructor in Women's Physical Education, 1958*  
B.S., Georgia State College for Women; M.S., Florida State.

\* Temporary.



- JAFFE, THEODORE ..... *Professor of Civil Engineering*, 1956  
B.S., City College of New York; M.S., New York University.
- JAMES, CHARLES W. .... *Assistant Professor of Anatomy and Histology*, 1959, 1960  
D.V.M., Auburn University.
- JENKINS, CHARLES H. .... *Instructor of Naval Science*, 1958  
Sergeant Major, United States Marine Corps.
- JENKINS, FRANK W. .... *District Supervisor, Vocational Rehabilitation Service*, 1949, 1953  
A.B., Emory.
- JOHNSON, DONALD R. .... *Assistant Professor of Military Science and Tactics*, 1959  
B.S., Michigan; Captain, Engineers.
- JOHNSON, EVERT W. .... *Associate Professor of Forestry*, 1950, 1957  
B.S., New Hampshire; M.F., Yale; Ph.D., Syracuse.
- JOHNSON, JACK L. .... *Instructor in Engineering Graphics*, 1959  
B.I.M., Auburn University.
- JOHNSON, JEAN ..... *Instructor in English*, 1958  
B.A., Emory and Henry; M.A., Arkansas.
- JOHNSON, RONALD E. .... *Assistant Professor of Psychology*, 1960  
B.A., Ph.D., Ohio State.
- JOHNSON, SIDNEY W. .... *Associate Professor of History*, 1925, 1941  
B.S., M.S., Auburn University.
- JOHNSON, WILEY C., JR. .... *Associate Professor of Agronomy*, 1957  
B.S., Wake Forest; B.S., M.S., North Carolina State; Ph.D., Cornell.
- \*JOHNSTON, D. W. .... *Instructor in English*, 1960  
A.B., Georgia; M.A., Columbia; B.L., Atlanta Law School. (Resigned Effective May 31, 1960.)
- JONES, DAN THOMAS ..... *Head Professor of Industrial Laboratories*, 1921, 1928  
Diploma, Auburn University.
- JONES, EDWARD OSCAR, JR. .... *Associate Professor of Mechanical Engineering*, 1946, 1954  
B.M.E., B.E.E., Auburn University; M.S., Illinois.
- JONES, HANIEL ..... *Instructor in Engineering Graphics*, 1958  
B.A., Millsaps College; B.D., Duke.
- JONES, MADISON P., JR. .... *Assistant Professor of English*, 1956  
A.B., Vanderbilt; M.A., Florida.
- JONES, RALPH R. .... *Training Officer, School of Agriculture*, 1936, 1957  
B.S., Auburn University; M.S., Michigan State.
- JONES, SAM T. .... *Associate Professor of Horticulture*, 1950, 1954  
B.S., M.S., Auburn University; Ph.D., Louisiana State.
- \*JONES, SAMUEL B., JR. .... *Instructor in Botany*, 1959  
B.S., Auburn University.
- JORDAN, RALPH ..... *Professor of Physical Education*, 1932, 1951  
B.S., Auburn University.
- JUSTICE, ERNEST ..... *Assistant Professor of Education*, 1959  
B.M.E., Kansas State Teachers College; M.S., Ph.D., Wisconsin.
- JUSTICE, MARY ELIZABETH ..... *Instructor in Education*, 1960  
B.M.E., Kansas State Teachers College.
- KAMINSKY, WALLACE B. .... *Assistant Professor of English*, 1955, 1958  
B.A., New York; M.F.A., Iowa State.
- KAZMIERCZAK, STELLA ..... *Instructor in Women's Physical Education*, 1957  
R.N., St. Joseph's Infirmary, Atlanta, Georgia; B.S.H.E., Florida.
- KELLEY, CHARLES MANFORD ..... *Head Professor of Architecture*, 1946, 1957  
B.Arch., Auburn University; M.Arch., Harvard.
- KELLEY, ROGER LEE ..... *Assistant Professor of Psychology*, 1960  
A.B., Chicago.
- KENDRICK, JACK E. .... *Associate Professor of History*, 1939, 1946  
A.B., North Carolina; M.A., Emory; Ph.D., North Carolina.
- KERN, EDWARD E., JR. .... *Associate Professor of Agricultural Economics*, 1955  
B.S., M.S., Louisiana State University.

\* Temporary.

- KETTUNEN, MARIETTA \_\_\_\_\_ Associate Professor of Art, 1954, 1957  
B.A.E., Art Institute of Chicago. Studied: Parsons, New York Art Students League.
- \*KILBOURN, D. L. \_\_\_\_\_ Instructor in Physics, 1958  
B.E.P., Auburn University.
- KILLGORE, JAMES A. \_\_\_\_\_ Assistant Professor of Air Science, 1958  
B.A., Southern Methodist University; Captain, United States Air Force.
- KINCEY, TRULY ELIZABETH \_\_\_\_\_ Associate Professor of Economics  
A.B., Alabama College; M.A., Tulane. \_\_\_\_\_ and Business Administration, 1957, 1960
- KINNAIRD, RICHARD \_\_\_\_\_ Instructor in Art, 1960  
B.F.A., Carleton College; M.F.A., University of Illinois.
- KIRBY, ANN D. \_\_\_\_\_ Instructor in Speech, 1960  
A.B., Valdosta State College; M.F.A., Georgia.
- KITCHENS, EDWARD L. \_\_\_\_\_ Assistant Professor of Air Science, 1958  
B.S., Clemson; Major, United States Air Force.
- KLEFINGER, WALTER J. \_\_\_\_\_ Assistant Professor of Engineering Graphics, 1934, 1956  
B.M.E., Ohio State.
- KLING, J. MALCOLM \_\_\_\_\_ Instructor of Physiology and Pharmacology, 1959  
D.V.M., Georgia.
- KLONTZ, HAROLD E. \_\_\_\_\_ Professor of Economics and Business  
A.B., Berea; Ph.D., North Carolina. \_\_\_\_\_ Administration, 1946, 1950
- KNIGHT, WILLIAM C. \_\_\_\_\_ Associate Professor of Textile Technology, 1946, 1957  
B.T.C., Auburn University; M.S.T.E., Georgia Tech.
- KNOWLES, RALPH L. \_\_\_\_\_ Assistant Professor of Architecture, 1959  
B.Arch., North Carolina State College; M.Arch., M.I.T.
- KNOWLES, ROBERT L. \_\_\_\_\_ Assistant Professor of Dramatic Arts, 1951, 1955  
B.A., Stetson; M.A., Florida.
- KOPER, ROBERT P. \_\_\_\_\_ Assistant Professor of Music, 1959  
B.S., Illinois; M.Mus., Catholic University.
- KOSOLAPOFF, GENNADY M. \_\_\_\_\_ Research Professor of Chemistry, 1948, 1953  
B.S.Ch.E., Cooper Union; M.S., Sc.D., Michigan.
- KUDERNA, JEROME \_\_\_\_\_ Professor of Education, 1929, 1937  
A.B., M.A., Michigan.
- KUHN, LORANCE \_\_\_\_\_ Instructor, Army ROTC, 1960  
Sergeant First Class, United States Army.
- KUMMER, F. A. \_\_\_\_\_ Head Professor of Agricultural Engineering, 1935, 1948  
B.S., M.S., Auburn University.
- LAMAR, MARY GEORGE \_\_\_\_\_ Assistant Professor of Economics and  
B.S., Auburn University; M.A., New York. \_\_\_\_\_ Business Administration, 1933, 1955
- LAND, JAMES E. \_\_\_\_\_ Professor of Chemistry, 1938, 1955  
B.S., Clemson; M.S., Tulane; Ph.D., North Carolina.
- LAND, JEANNETTA T. \_\_\_\_\_ Head Professor of Women's Physical Education, 1941, 1943  
B.S., Alabama; M.A., Teachers College, Columbia.
- LANE, WILLIAM E. \_\_\_\_\_ Head Professor of Industrial Management, 1949, 1955  
B.S., M.S., Auburn University; Ph.D., Alabama.
- LANHAM, BEN T., JR. \_\_\_\_\_ Head Professor of Agricultural Economics, 1939, 1956  
B.S., Clemson; M.S., Tennessee.
- LAPP, VERNON W. \_\_\_\_\_ Professor of Education, 1940, 1944  
B.S., M.A., Ph.D., Iowa.
- LAPSLEY, JOHN WHITFIELD, JR. \_\_\_\_\_ Assistant Professor of Art, 1959  
B.A., Birmingham-Southern; M.A., Columbia.
- LARSEN, HARRY S. \_\_\_\_\_ Assistant Professor of Forestry, 1959  
B.S., Rutgers; M.S., Michigan State.
- LAWLER, JOYCE \_\_\_\_\_ Assistant Professor of Women's Physical Education, 1955, 1958  
A.B., Bessie Tift College; M.A., Peabody.
- LAWRENCE, JOHN M. \_\_\_\_\_ Associate Professor of Zoology and Entomology, 1946, 1956  
B.S., M.A., Auburn University; Ph.D., Iowa State.

\* Temporary.



- LAWSON, STANTON C. D. *Associate Professor of Mechanical Engineering*, 1958  
B.A.Sc., University of Toronto; M.S., Michigan.
- LAYFIELD, CLAUDE B. *Associate Professor of Industrial Management*, 1947, 1958  
B.A.A., B.I.M., Auburn University; M.S., Georgia Tech.
- LAYFIELD, MARY *Assistant Professor in Home Economics*, 1953, 1957  
B.S., M.S., Ed.D., Auburn University.
- LAYMAN, EARL D. *Associate Professor of Architecture*, 1957  
B.S., B.Arch., Oregon; Certificate, Fontainebleau Fine Arts School.
- LEE, FARLEY *Agriculture Librarian and Assistant Professor*, 1928, 1959  
B.S., Judson College; B.S., Chicago; M.A., Columbia; A.B.L.S., Emory.
- LEFFARD, WARREN L. *Assistant Professor of Industrial Laboratories*, 1956, 1959  
B.S., M.Ed., Auburn University.
- LEWIS, GEORGE R. *Head, Circulation Department (Library)*  
A.B., Mississippi College; M.S.L.S., Louisiana State. *and Associate Professor*, 1958, 1960
- \*LIDDELL, WILL L., JR. *Instructor in Mechanical Engineering*, 1959  
B.M.E., Auburn University.
- \*LIGHT, MARGARET PANSY *Instructor in Mathematics*, 1953, 1955  
B.S., Mississippi Southern; M.A., M.S., Auburn University.
- LINDSEY, JAMES R. *Assistant Professor of Pathology and Parasitology*, 1957, 1960  
B.S., D.V.M., University of Georgia.
- LITTLE, ALTON S. *Associate Professor of Engineering Graphics*, 1947, 1955  
B.C.E., Auburn University; M.S.C.E., Georgia Tech.
- LITTLETON, ROBERT EDWARD *Instructor in Electrical Engineering*, 1960  
B.S.Ch., Berry College; B.S.Ch.E. Engr., M.S.Ch.E., Auburn University.
- LITTLETON, TAYLOR D. *Assistant Professor of English*, 1957, 1959  
B.S., M.A., Ph.D., Florida.
- LITTLEWOOD, LYLE E. *Assistant Professor of Naval Science*, 1959  
B.S., North Central College, Illinois; Lieutenant Junior Grade, U.S. Naval Reserve.
- LIVERMAN, JOHN HUBERT *Head Professor of Music*, 1945, 1954  
B.S., M.A., Columbia.
- LOCKETT, JOHN *Professor of Military Science and Tactics and the*  
Ph.B., Yale University; Colonel, Artillery. *Commandant*, 1957
- LORENDO, EUGENE *Instructor in Men's Physical Education*, 1951  
B.S., Georgia.
- \*LORENDO, JANE CAMPBELL *Instructor of Home Economics*, 1956, 1958  
B.S., Minnesota; M.S., Auburn University.
- LOUCK, JAMES D. *Associate Research Professor of Physics*, 1960  
B.S., Auburn University; M.S., Ph.D., Ohio State.
- LOVELL, JOHN T. *Professor of Education*, 1956, 1960  
B.A., M.A., George Peabody College for Teachers; D.Ed., Florida.
- LYLE, JAMES A. *Head Professor of Botany and Plant Pathology*, 1947, 1954  
B.S., Kentucky; M.S., North Carolina State; Ph.D., Minnesota.
- LYNN, WILLIAM J. *Instructor in Men's Physical Education*, 1951  
B.S., Auburn University.
- MACON, NATHANIEL *Professor of Mathematics and Director of*  
A.B., M.A., Ph.D., North Carolina. *Computing Laboratory*, 1951, 1959
- \*MAJOR, ELIZABETH BASKERVILLE *Instructor in Mathematics*, 1960  
B.S., Auburn University.
- MALONE, DAVID H. *Associate Professor of English*, 1948, 1952  
B.A., Ph.D., North Carolina.
- MARSHALL, NORTON LITTLE *Assistant Professor of Botany*, 1958  
B.S., Pennsylvania State; M.S., Ph.D., Maryland.
- MARTIN, FRED WILLIAM *Professor of Aeronautical Engineering*, 1956  
B.S.A.E., M.S., Virginia Polytechnic Institute.
- MARTIN, WILLIS C., JR. *Instructor in Ornamental Horticulture*, 1951, 1958  
B.S., Auburn University.

- MARTINCIC, ALBERT FRANK.....Assistant Professor of Men's Physical  
B.S., M.A., State University of Iowa. Education, 1948, 1953
- MARTY, EDWARD C.....Professor of Building Technology, 1939, 1957  
B.Arch., M.Arch., Auburn University.
- MAYER, RONALD W.....Assistant Professor of Psychology, 1958  
B.A., Ohio Wesleyan; M.A., Ph.D., Ohio State.
- MAYNOR, HAL WHARTON, JR.....Professor of Mechanical Engineering, 1959  
B.S., M.S., D.ofEng., Kentucky.
- MAYS, JOHN B., JR.....Assistant Professor of Air Science, 1959  
B.S., Georgia; Major, United States Air Force.
- MCCAIN, FRANCIS SAXON.....Professor of Agronomy, 1946, 1959  
B.S., M.S., Auburn University; Ph.D., Purdue.
- MCCANN, FRANKLIN T.....Professor of English, 1947, 1953  
A.B., Denison; M.A., Harvard; M.A., Ph.D., Columbia.
- MCCLUNG, JAMES D.....Associate Professor of Engineering Graphics, 1941, 1946  
B.S., Ed.M., Oklahoma.
- MCCLURKIN, JAMES H.....Assistant Professor of Military Science, 1959  
B.S., Auburn University; Major, Artillery.
- MCCRANEY, JOHN W., JR.....Instructor in Engineering Graphics, 1960  
B.S.C.E., Auburn University.
- MCGOWEN, NEIL E.....Instructor in Men's Physical Education, 1948  
B.S., Auburn University.
- MCINTYRE, SHERWOOD C.....Professor of Psychology, 1948  
B.A., B.Sc.Ed., M.A., Ph.D., Ohio State.
- MCIVOR, JOHN WILFRED.....Instructor in Art, 1959  
B.F.A., M.F.A., Illinois.
- MCKAY, JOE M.....Instructor in Electrical Engineering, 1957  
B.S.Ch., Auburn University.
- MCKINNON, JOHN C.....Professor of Mechanical Engineering, 1924, 1943  
B.E.E., B.M.E., Auburn University; M.S., Michigan.
- MCLEOD, FRANCES R.....Assistant Professor of English, 1945, 1955  
A.B., Huntingdon; M.S., Auburn University.
- McMILLAN, MALCOLM COOK.....Research Professor of History, 1948, 1952  
A.B., M.A., Alabama; Ph.D., North Carolina.
- McMURTRY, THOMAS EDWARD.....Instructor in Industrial Laboratories, 1959  
B.S., M.Ed., Auburn University.
- McNORTON, CLAUDE.....Assistant Professor of History, 1946, 1949  
A.B., Alabama; M.S., Louisiana State; M.A., New York.
- \*MEADORS, JOHN G.....Instructor in Physics, 1959  
B.E.P., Auburn University. (Resigned Effective September 15, 1960.)
- MECHAM, JOHN STEPHEN.....Assistant Professor of Zoology and Entomology, 1956  
B.A., Texas; M.S., Florida; Ph.D., Texas.
- MELIUS, PAUL.....Associate Professor of Chemistry, 1957  
B.S., Bradley; M.S., Chicago; Ph.D., Loyola, Chicago.
- \*MELZER, DOROTHY GARRETT.....Assistant Professor of English, 1958  
A.M., Ph.B., Chicago.
- MELZER, JOHN HENRY.....Professor of Philosophy, 1958  
A.M., Ph.D., Vanderbilt.
- METZ, GENE ALAN.....Assistant Professor of Civil Engineering, 1960  
B.S.C.E., M.S.C.E., University of Missouri.
- METCALF, JACK A.....Instructor of Naval Science, 1959  
Chief Gunner's Mate, U.S. Navy.
- METZGER, ABRAM B.....Assistant Professor of History and Government, 1937, 1947  
B.B.A., Chattanooga; M.S., Auburn University.
- MILLER, HAMPTON KNOX.....Assistant Professor of Electrical Engineering, 1938, 1946  
B.E.E., Auburn University.

\* Temporary.

- \*MILLER, LOIS B. \_\_\_\_\_ Assistant Professor of English, 1959  
B.A., Wooster; A.M., Tufts College; Ph.D., North Carolina.
- MILLER, WILLIAM L. \_\_\_\_\_ Professor of Economics and Business  
B.B.A., Chattanooga; M.A., Ph.D., Duke. Administration, 1949, 1955
- MILLER, WILLIAM R. \_\_\_\_\_ Instructor of Bacteriology, 1960  
D.V.M., Auburn University.
- \*MILLICAN, ALTA LUCILLE \_\_\_\_\_ Instructor in Education, 1958  
B.S., Jacksonville State; M.A., Alabama; M.S., Florida.
- MIN, TONY C. \_\_\_\_\_ Associate Professor of Mechanical Engineering, 1957  
B.S.A.E., Chiao Tung University; M.S.M.E., Tennessee.
- MITCHELL, ROY D. \_\_\_\_\_ Assistant Professor of Engineering Graphics, 1956  
B.S., M.S., Oklahoma State.
- MODISSETT, CHARLES B. \_\_\_\_\_ Assistant Professor of Military Science, 1959, 1960  
B.S., Texas A. & M.; Major, Signal Corps.
- \*MOLAISON, WOODROW \_\_\_\_\_ Instructor in English, 1959, 1960  
B.A., Southeastern Louisiana College.
- MONTGOMERY, R. W. \_\_\_\_\_ Head Professor of Agricultural Education, 1940, 1952  
B.S., M.S., Auburn University; Ph.D., Ohio State.
- \*MONAHAN, WILLIAM J. \_\_\_\_\_ Assistant Professor of Foreign Languages, 1960  
B.A., M.A., Emory.
- MOORE, CLAUDE H. \_\_\_\_\_ Head Professor of Poultry Husbandry, 1956, 1959  
B.S., Auburn University; M.S., Kansas State; Ph.D., Purdue.
- MOORE, JOHN R. \_\_\_\_\_ Professor of English, 1932, 1960  
A.B., Tulane; A.M., Ph.D., Harvard.
- MOORE, JOSEPH C. \_\_\_\_\_ Assistant Professor of Horticulture, 1938, 1947  
B.S., Auburn University; M.S., Washington University.
- MOORE, JOYCE \_\_\_\_\_ Instructor in Women's Physical Education, 1960  
B.S., Florence State College.
- \*MOORE, MARY VIRGINIA \_\_\_\_\_ Instructor in Speech, 1956, 1958  
A.B., Valdosta State College; M.S., Purdue.
- MOORE, OMAR C. \_\_\_\_\_ Associate Professor of Chemical Engineering, 1931, 1953  
B.S., M.S., Auburn University.
- MORGAN, WILLIAM W. \_\_\_\_\_ Assistant Professor of Industrial Management, 1954  
B.B.A., Georgia; M.S., in I.M., Georgia Tech.
- \*MORRILL, OLIVE L. \_\_\_\_\_ Assistant Professor of Home Economics, 1960  
B.S., Utah State; M.S., Cornell University.
- MOSS, J. HERBERT, JR. \_\_\_\_\_ Assistant Professor of Mathematics, 1948  
A.B., William and Mary; M.S., New York.
- MUELLER, RICHARD EDWIN \_\_\_\_\_ Instructor in Mechanical Engineering, 1957  
B.M.E., Auburn University.
- \*MUELLER, WOLFGANG F. D. \_\_\_\_\_ Instructor in Foreign Languages, 1960  
B.A., Huntingdon. (Resigned Effective August 31, 1960.)
- MYLES, WILLIAM R. \_\_\_\_\_ Associate Professor of Economics and Business  
B.S., M.A., Pittsburgh. Administration, 1949, 1957
- NAPIER, JOHN H., III \_\_\_\_\_ Assistant Professor of Air Science, 1957  
B.A., Mississippi; Captain, United States Air Force.
- NAYLOR, ROBERT ARTHUR \_\_\_\_\_ Assistant Professor of History, 1956, 1957  
B.A., M.A., University of Western Ontario; Ph.D., Tulane.
- NEAL, JAMES E. \_\_\_\_\_ Head Professor of Bacteriology, 1951, 1959  
B.S., Mississippi State; D.V.M., Auburn University; M.S., Texas A. & M.
- NEAL, JESSE HAROLD \_\_\_\_\_ Professor of Agricultural Engineering, 1939, 1948  
B.S., Kansas State; M.S., Minnesota; Ph.D., Missouri.
- NEILSON, CLIFFORD C. \_\_\_\_\_ Assistant Professor of Military Science, 1960  
B.S., United States Military Academy; Captain, Armor.
- NEWELL, ANNIE LAURA \_\_\_\_\_ Acting Assistant Professor of Education, 1958, 1960  
A.B., LaGrange College; M.S., Ed.D., Auburn University.

- \*NEWMAN, MARY EMMA M. *Instructor in Mathematics*, 1942  
B.S., M.S., Auburn University.
- NICHOLS, GROVER T. *Associate Professor of Electrical Engineering*, 1947, 1950  
B.E.E., Auburn University; M.S., Georgia Tech.
- NICHOLS, JOHN O. *Assistant Professor of Aeronautical Engineering*, 1960  
B.S.A.E., M.S.E., Alabama.
- NICHOLS, MARK L. *Research Lecturer, Agricultural Engineering*, 1917, 1957  
B.S., Ohio State; M.S., Delaware; D.Sc., Clemson College.
- NICHOLS, SAMUEL H., JR. *Professor of Chemistry*, 1944, 1955  
A.B., Centre; M.S., Ph.D., Ohio State.
- NONEAKER, DANIEL O. *Instructor in Electrical Engineering*, 1958  
B.E.E., Auburn University.
- NORTON, JOSEPH D. *Assistant Professor of Horticulture*, 1960  
B.S., M.S., Auburn University.
- NUNNERY, MICHAEL Y. *Assistant Professor of Education*, 1959  
B.S., Austin Peay State College; M.A., North Carolina State College; Ed.D. Tennessee.
- \*O'BRIEN, JOHN M. *Instructor in Mechanical Engineering*, 1960  
B.S.M.E., Auburn University.
- \*O'NEIL, JAMES M. *Instructor in Mathematics*, 1958, 1960  
B.S., Millsaps College.
- ORR, FRANK MARION. *Head Professor of Building Technology*, 1928, 1957  
B.S., M.Arch., Auburn University.
- ORR, HENRY P. *Associate Professor of Ornamental Horticulture*, 1947, 1949  
B.S., Auburn University; M.S., Ohio State.
- ORSINI, NICHOLAS. *Instructor in Architecture*, 1959  
B.F.A., Rhode Island School of Design; M.F.A., Pennsylvania.
- \*OTTIS, CHARLOTTE. *Instructor in Education*, 1959  
A.B., Dakota Wesleyan University; M.A., Wisconsin.
- OTTIS, KENNETH. *Associate Professor of Zoology and Entomology*, 1953  
B.S., Dakota Wesleyan; M.S., Ph.D., Iowa State.
- OWSLEY, FRANK L., JR. *Assistant Professor of History*, 1960  
A.B., Vanderbilt; M.A., Ph.D., Alabama.
- OWSLEY, RICHARD M. *Assistant Professor of Philosophy*, 1960  
A.B., University of Louisville; M.A., Ph.D., Indiana.
- PARKER, WILLIAM VANN. *Head Professor of Mathematics*, 1950  
A.B., M.A., North Carolina; Ph.D., Brown.
- PARTENHEIMER, EARL J. *Assistant Professor of Agricultural Economics*, 1960  
B.S., M.S., Purdue; Ph.D., Michigan State.
- PARTIN, ROBERT L. *Professor of History*, 1937, 1947  
B.S., Middle Tennessee State; M.A., Ph.D., Peabody.
- PATRICK, KEITH HILTON. *Assistant Professor of Agronomy*, 1954  
B.S., Oklahoma A. & M.
- PATRICK, WALTON R. *Head Professor of English*, 1946, 1947  
B.S., Mississippi State; M.A., Ph.D., Louisiana State.
- PATTERSON, RICHARD MCCARTHY. *Associate Professor of Agronomy*, 1949, 1959  
B.S., M.S., Florida; Ph.D., Pennsylvania State.
- PATTERSON, TROY B., JR. *Associate Professor of Animal Science*, 1957  
B.S., Mississippi State; M.S., Ph.D., Texas A. & M.
- PATTON, GEORGE W. *Associate Professor of Economics and Business Administration*, 1943  
B.Ph., Emory; M.A., Kentucky.
- PEARSON, ALLEN M. *Professor of Zoology-Entomology*, 1937, 1957  
B.S., Auburn University; M.S., Ph.D., Iowa State.
- \*PEET, HELEN HANNA. *Reference Librarian and Instructor*, 1937, 1959  
A.B., Mississippi College for Women; M.A., Tulane.
- PEET, TELFAIR BOYS. *Head Professor of Dramatic Arts*, 1931, 1957  
A.B., Columbia; M.A., North Carolina.

\* Temporary.

- PERRY, NORMAN C. Associate Professor of Mathematics, 1953, 1956  
B.A., California; M.A., Ph.D., Southern California.
- PETERSON, JOE G. Associate Professor of Chemistry, 1948, 1959  
B.S., M.S., Auburn University.
- \*PHILLIPS, BILLY RUSSELL Instructor in Mechanical Engineering, 1959  
B.M.E., Auburn University.
- PHILLIPS, CHARLES LAMAR Assistant Professor of Electrical Engineering, 1959  
B.S.E.E., M.S.E.E., Georgia Tech.
- PHILLIPS, JOE Assistant Professor of Textile Technology,  
Auburn Research Foundation, 1959  
B.S., Auburn University.
- PICKETT, WILDA D. Associate Professor of Education, 1959  
B.S., Central Missouri State; A.M., Ed.D., Teachers College, Columbia.
- PITTS, ROBERT GILES Head Professor of Aeronautical Engineering, 1935, 1944  
B.A.E., Auburn University; M.S., California Institute of Technology.
- POLHEMUS, GEORGE W. Assistant Professor of English, 1956, 1959  
A.B., M.A., Mississippi; M.A., Columbia.
- PORTER, DALE A. Research Lecturer, Zoology and Entomology, 1954  
A.B., Kalamazoo College; M.S., Kansas State; Sc.D., Johns Hopkins.
- POSEY, HENRY G. Associate Professor of Forestry, 1950, 1959  
B.S.F., M.S.F., North Carolina State.
- PRATHER, EDMUND E. Associate Professor of Zoology and Entomology, 1942, 1950  
B.S., Auburn University; M.S., Michigan.
- PRATHER, ELIZABETH Assistant Professor of Home Economics, 1955, 1960  
B.S., M.S., Auburn University.
- PRESTRIDGE, JAMES ALBERT, JR. Associate Professor of Architecture, 1947, 1954  
B.S., Mississippi State; B.Arch., Auburn University; M.S.Arch., Columbia.
- \*PRESTRIDGE, VIRGINIA Instructor in Economics and Business  
Administration, 1948  
B.S., Auburn University; M.A., Columbia.
- PRICE, EDWIN O. Professor of Chemistry, 1946, 1957  
A.B., Colorado; M.S., Ph.D., Ohio State.
- PRICE, JAMES FRANK Assistant Professor of Animal Husbandry, 1960  
B.S., Tennessee; M.S., Ph.D., Michigan State.
- PRUETT, HERMAN T. Associate Professor of Agricultural Education, 1949, 1960  
B.S., M.S., Auburn University.
- PRIEST, MELVILLE S. Head Professor of Civil Engineering, 1955, 1958  
B.S., Missouri; M.S., Colorado; Ph.D., Michigan.
- PRUETT, HERMAN T. Assistant Professor of Agricultural Education, 1949  
B.S., M.S., Auburn University.
- PUNKE, HAROLD H. Professor of Education, 1949  
B.S., M.S., Illinois; Ph.D., Chicago.
- RANNEY, J. BUCKMINSTER Associate Professor of Speech and Head of the  
Speech and Hearing Clinic, 1957  
B.A., M.A., New York; Ph.D., Ohio State.
- RASH, JOE M. Associate Professor of Pharmacy, 1948  
B.S., Carson-Newman; B.S., M.S., Auburn University.
- RAWLS, TANNY Instructor in Women's Physical Education, 1960  
A.A., Stephens College, Columbia; B.S., Univ. of Iowa; M.S., Univ. of North Carolina.
- \*RAY, JIMMY HAROLD Instructor of Mechanical Engineering, 1960  
B.S.M.E., Auburn University.
- RAY, WILLIAM D. Instructor in Mathematics, 1957, 1960  
B.S., M.S., Auburn University.
- REA, RICHARD G. Instructor in Speech and Debate Coach, 1960  
B.S., Southwest Missouri State; M.A., Arkansas.
- REA, ROBERT R. Associate Professor of History, 1950, 1955  
B.A., Friends; M.A., Ph.D., Indiana.
- REAGAN, HUGH D. Assistant Professor of History, 1948, 1953  
B.A., M.A., Emory.

- REED, IRVIN F. \_\_\_\_\_ *Research Lecturer, Agricultural Engineering*, 1957  
B.S., A.E., Nebraska; M.S., Ohio State.
- RENARD, BLANCA \_\_\_\_\_ *Assistant Professor of Music*, 1955  
Graduate: National Conservatory, Santiago, Chile; Stern Conservatory, Berlin, Germany.
- RENOLL, ELMO S. \_\_\_\_\_ *Associate Professor of Agricultural Engineering*, 1949, 1955  
B.S., Auburn University; M.S., Iowa State.
- REYNOLDS, ALFRED WADE \_\_\_\_\_ *Head Professor of History and Government*, 1913, 1950  
B.S., M.S., Auburn University; M.A., Ph.D., California.
- REYNOLDS, GEORGE N. \_\_\_\_\_ *Instructor in Economics and Business Administration*, 1957  
A.B., North Carolina; M.A., Florida.
- RICE, MARTIN R. \_\_\_\_\_ *Assistant Professor of Music*, 1959  
B.Mus.Ed., Wichita; M.Mus., Michigan.
- RICHARDSON, BOONE YATES \_\_\_\_\_ *Assistant Professor of Agricultural Engineering*, 1954  
B.S., M.S., Louisiana State.
- RICHARDSON, FRED L., JR. \_\_\_\_\_ *Assistant Professor of Air Science*, 1960  
B.S., Florida State; Major, United States Air Force.
- RICHARDSON, JESSE M. \_\_\_\_\_ *Professor of Economics and Business Administration*, 1943, 1957  
B.S., M.A., Alabama; Ph.D., Peabody.
- RICHARDSON, ROBERT STANLEY \_\_\_\_\_ *Instructor in Music*, 1956, 1959  
B.S., M.Ed., Auburn University.
- RITCHIE, VIRGINIA C. \_\_\_\_\_ *Associate Professor of Home Economics*, 1945, 1954  
B.S., M.S., Kentucky.
- RITLAND, RAYMOND W. \_\_\_\_\_ *Professor of Economics and Business Administration*, 1957, 1959  
B.S.C., M.A., Ph.D., Iowa.
- \*ROBERSON, NANCY C. \_\_\_\_\_ *Instructor in History*, 1959  
A.B., Randolph-Macon; M.A., Alabama.
- ROBERTSON, BENJAMIN T., JR. \_\_\_\_\_ *Instructor of Physiology and Pharmacology*, 1959  
B.S., Kentucky; D.V.M., Auburn University.
- ROBINSON, A. JUDE \_\_\_\_\_ *Associate Professor of Mathematics*, 1923, 1935  
B.S., Clemson; M.S., Emory.
- ROBINSON, WALTER J., JR. \_\_\_\_\_ *Assistant Professor of Aeronautical Engineering*, 1959  
B.A.S., Auburn University; M.B.A., Denver.
- ROGERS, HOWARD TOPPING \_\_\_\_\_ *Head Professor of Agronomy and Soils*, 1942, 1951  
B.S., Virginia Polytechnic Institute; M.S., Michigan State; Ph.D., Iowa State.
- ROLLINS, GILBERT H. \_\_\_\_\_ *Associate Professor of Dairy Science*, 1948, 1953  
B.S., M.S., Virginia Polytechnic Institute; Ph.D., Illinois.
- ROSE, CHARLES S., JR. \_\_\_\_\_ *Assistant Professor of English*, 1960  
A.B., Vanderbilt; M.A., Ph.D., Florida.
- ROSE, EITHEL \_\_\_\_\_ *Professor of Home Economics*, 1959  
B.S., M.S., Indiana Teachers College; Ph.D., Ohio State.
- ROSEN, MELVIN \_\_\_\_\_ *Assistant Professor of Men's Physical Education*, 1955, 1959  
B.S., M.A., State University of Iowa.
- \*ROSSNER, FRANCIS \_\_\_\_\_ *Assistant Professor of Economics and Business Administration*, 1960  
L.L.B., University of Budapest; M.B.A., North Carolina.
- ROUSE, ROY D. \_\_\_\_\_ *Professor of Agronomy and Soils*, 1949, 1956  
B.S., M.S., Georgia; Ph.D., Purdue.
- ROWLAND, WILMER R. \_\_\_\_\_ *Instructor, Army ROTC*, 1960  
Sergeant First Class, United States Army.
- RUSH, KATHRYN S. \_\_\_\_\_ *Assistant Professor of Home Economics*, 1949, 1951  
B.S., M.S., Auburn University.
- RUSSELL, DALLAS \_\_\_\_\_ *Associate Professor of Electrical Engineering*, 1959  
B.S.E.E., M.S.E.E., Tennessee.
- RUSSELL, ERSKINE \_\_\_\_\_ *Instructor in Men's Physical Education*, 1958  
B.S., M.S., Auburn University.
- RUTLEDGE, WALTER K. \_\_\_\_\_ *Instructor in Economics and Business Administration*, 1959  
B.S., Auburn University; M.A., Florida.



- SALMON, WILLIAM D. *Professor of Animal Science*, 1922, 1957  
B.S., Kentucky; M.A., Missouri; Sc.D., Kentucky.
- SANDERS, A. DEWEY *Assistant Professor of Mathematics*, 1946, 1947  
B.A., DePauw; M.A., Michigan.
- \*SANDERS, BARBARA BINGHAM *Instructor in Psychology*, 1951, 1954  
B.S., Washington State; M.S., Auburn University.
- SANDERS, J. W. *Assistant Professor of Speech*, 1952, 1959  
B.A., Tampa; B.A., M.A., Florida.
- SANDERS, ROBERT H. *Professor of Sociology*, 1950, 1957  
B.A., M.A., Texas Christian; Ph.D., State College of Washington.
- SANFORD, L. G. *Instructor in Zoology*, 1960  
B.S., Florence State College.
- SAUNDERS, CHARLES RICHARD *Head Professor of Chemistry*, 1924, 1950  
B.S., M.S., Auburn University; Ph.D., Nebraska.
- SAUNDERS, ROBERT LAWRENCE *Associate Professor of Education,  
Assistant to the Dean of the School of Education, and Coordinator  
of Field Services*, 1957, 1960  
B.S., M.S., Ed.D., Auburn University.
- \*SCARBOROUGH, JAMES M. *Instructor in Physics*, 1958, 1960  
B.E.P., M.S., Auburn University.
- SCARBOROUGH, JOHN LEWIS *Associate Professor of Mechanical  
Engineering*, 1947, 1954  
B.A.E., B.M.E., Auburn University; M.S., Alabama.
- SCARSBROOK, CLARENCE E. *Professor of Soils*, 1953, 1959  
B.S., Auburn University; Ph.D., North Carolina State.
- SCHAEER, WALTER *Associate Professor Industrial Design*, 1960  
Federal Certificate of Proficiency, Bienne Craft School; Federal Master's Diploma, Master's  
School for Furnishing & Interior Design, Berne; Diploma in Industrial Design, Ulm School  
of Design.
- SCHIED, PAUL W. *Professor of Education*, 1957, 1960  
A.B., Miami University, Ohio; A.M., Duke; Ph.D., Ohio State.
- SCHILL, FRED G. *Head Professor of Large Animal Surgery  
and Medicine*, 1956, 1959  
D.V.M., Auburn University.
- SCHRAEDER, GLENN A. *Professor of Chemistry*, 1930, 1949  
B.S., M.S., Beloit; Ph.D., Wisconsin.
- SEAL, JAMES LEWIS *Professor of Botany*, 1929, 1954  
B.S.Agr., Clemson; M.S., Iowa State; Ph.D., Minnesota.
- \*SEARCY, INEZ *Instructor in Economics and Business Administration*, 1957, 1960  
B.A., Hollins College; L.L.B., Alabama. (Resigned Effective August 31, 1960.)
- SELLERS, LEWIS L. *District Supervisor of Vocational Agriculture and  
Itinerant Teacher Trainer*, 1937, 1958  
B.S., M.S., Auburn University.
- SENN, C. L. *Instructor in Men's Physical Education*, 1945, 1948  
B.S., Auburn University.
- SESSOMS, MARGARET HANNAH *Catalog Librarian and Instructor*, 1960  
A.B., Alabama College; M. of Librarianship, Emory.
- SEWELL, ANNIE MARIE *Instructor in English*, 1942  
A.B., Huntingdon; M.S., Auburn University.
- SHAW, JOHN ROBERT *Associate Professor of Physics*, 1960  
B.S.P., M.S.P., Auburn University; Ph.D., Rice.
- SHAW, WINFRED A. *Professor of Mechanical Engineering*, 1958  
B.S.G.E., Mississippi; M.S.E.M., Texas; Ph.D., Stanford.
- SHERLING, WILLIAM G. *Associate Professor of Aeronautical Engineering*, 1947, 1954  
B.A.E., Auburn University; M.S.A.E., Georgia Tech.
- SHIELDS, ALAN J. *Assistant Professor of Sociology*, 1956, 1959  
B.A., M.A., North Texas State College.
- SHIH, CORNELIUS CHUNG-SHENG *Associate Professor of Civil Engineering*, 1959  
B.S., National Taiwan University; M.S., Ph.D., Michigan State.
- SHUMAN, RALEIGH C. *Instructor of Naval Science*, 1960  
Chief Quartermaster, U.S. Navy.

- SHUMARD, GORDON H. \_\_\_\_\_ *Assistant Professor of Military Science*, 1960  
B.S., U.S.M.A., M.ofE., Texas A. & M.; Major, Engineers.
- \*SIMMONS, TERRY KAY \_\_\_\_\_ *Instructor in Art*, 1960  
B.App.Art, Auburn University.
- \*SIMPSON, GRACE \_\_\_\_\_ *Instructor in English*, 1959  
B.A., Winthrop College. (Resigned Effective June 15, 1960.)
- SIMPSON, HASSELL A. \_\_\_\_\_ *Instructor in English*, 1959  
B.S., Clemson; M.A., Florida.
- SKELTON, ROBERT BEATTIE \_\_\_\_\_ *Head Professor of Foreign Languages*, 1939, 1954  
A.B., Michigan State Normal; M.A., Ph.D., Michigan; Certificado, University of Brazil; Certificado, University of Chile.
- SLAGH, TIM DENNIS \_\_\_\_\_ *Assistant Professor of Electrical Engineering*, 1959  
B.S., Michigan College of Mining & Technology; M.S., Auburn University.
- \*SMITH, ELIZABETH D. \_\_\_\_\_ *Instructor in Art*, 1960  
B.F.A., Syracuse University.
- SMITH, FLOYD S. \_\_\_\_\_ *Associate Professor of Mechanical Engineering*, 1946, 1955  
B.S., Virginia Military Institute; B.S., B.M.E., M.S., Auburn University.
- SMITH, JAMES P. \_\_\_\_\_ *Assistant Professor in Mechanical Engineering*, 1958, 1960  
B.M.E., Louisville Speed Scientific School.
- SMITH, WILLIAM STEPHEN \_\_\_\_\_ *Professor of Speech*, 1952, 1959  
B.Ed., N.I.S.T.C., DeKalb; M.A., Ph.D., Stanford.
- SPANN, RANSOM D. \_\_\_\_\_ *Head Professor of Electrical Engineering*, 1915, 1951  
B.E., E.E., Auburn University.
- SPARKS, FRANK M. \_\_\_\_\_ *Associate Professor of Physics*, 1943, 1946  
B.S., Auburn University; M.A., Ph.D., Illinois.
- SPAULDING, PAUL J. \_\_\_\_\_ *Instructor, Army ROTC*, 1957  
Master Sergeant, United States Army.
- SPENCER, LILLY H. \_\_\_\_\_ *Associate Professor of Home Economics*, 1928, 1947  
B.S., M.S., Oklahoma A. & M.
- SPIDLE, MARION W. \_\_\_\_\_ *Head Professor of Home Economics*, 1938, 1942  
B.S., Alabama College; B.S., M.A., Columbia.
- SPRAGUE, ALBERT T., JR. \_\_\_\_\_ *Associate Professor of Electrical Engineering*, 1949  
B.S., United States Naval Academy; M.S., Harvard.
- SQUIERS, C. D. \_\_\_\_\_ *Associate Professor of Animal Science*, 1950  
B.S., M.A., Ph.D., Missouri.
- STALCUP, ROBERT JAMES \_\_\_\_\_ *Assistant Professor of Education*, 1960  
B.A., Huron College; M.A., Ed.D., Nebraska.
- STALNAKER, CARROLL C. \_\_\_\_\_ *Associate Professor of Economics and Business Administration*, 1937, 1946  
B.A., Iowa State Teachers; M.A., Iowa.
- STANALAND, EUGENE E. \_\_\_\_\_ *Instructor in Economics and Business Administration*, 1960  
B.S., Huntingdon; M.B.A., Alabama.
- STEELE, H. ELLSWORTH \_\_\_\_\_ *Research Professor of Economics and Business Administration*, 1949, 1951  
B.A., M.A., Nebraska; Ph.D., Ohio State.
- \*STEELE, KENNETH E. \_\_\_\_\_ *Instructor in Physics*, 1956, 1958  
B.E.P., Auburn University.
- STEENSEN, DONALD H. J. \_\_\_\_\_ *Assistant Professor of Forestry*, 1960  
B.S., Iowa State; M.F., Duke.
- STEVENS, FRANK J. \_\_\_\_\_ *Professor of Chemistry*, 1947, 1959  
B.S., Illinois; Ph.D., Iowa State.
- STOUT, CHESTER B., JR. \_\_\_\_\_ *Instructor of Naval Science*, 1957  
B.S., Auburn University; Chief Yeoman (SS), United States Navy.
- STOVES, WILLIAM H. \_\_\_\_\_ *Assistant Professor of Industrial Laboratories*, 1946, 1949  
B.S., M.S., Auburn University.
- STRONG, WILLARD L. \_\_\_\_\_ *Assistant Professor of Naval Science*, 1960  
B.S., U.S. Naval Academy; Lieutenant Commander, U.S. Navy.

\* Temporary.



- STROUD, OXFORD \_\_\_\_\_ Assistant Professor of English, 1950, 1957  
B.S., M.A., Auburn University.
- STURKIE, DANA G. \_\_\_\_\_ Professor of Agronomy, 1925, 1942  
B.S., Auburn University; M.S., Iowa State; Ph.D., Michigan State.
- STURROCK, WALTER \_\_\_\_\_ Associate Professor of Electrical Engineering, 1958  
B.M.E., Cornell.
- SUMMER, HENRY M. \_\_\_\_\_ Associate Professor of Electrical Engineering, 1947, 1954  
B.S., Clemson A. & M.; B.E.E., Auburn University; M.S.E.E., North Carolina State.
- SWALLEY, JUDE L. \_\_\_\_\_ Instructor of Small Animal Surgery and Medicine, 1959  
B.S., D.V.M., Kansas State College.
- SWINGLE, HOMER SCOTT \_\_\_\_\_ Professor of Zoology and Entomology, 1929, 1939  
B.S., M.S., Sc.D., Ohio.
- SWINSON, WELDON FRANK \_\_\_\_\_ Assistant Professor of Mechanical Engineering, 1960  
B.E., Rice Institute; B.M.E., Texas Tech; M.S.M.E., Texas A. & M.
- \*SYKES, MALTBY \_\_\_\_\_ Professor of Art, 1942, 1954  
Studied: Wayman Adams, Diego Rivera, John Sloan, George C. Miller, Fernand Leger, Stanley William Hayter, and Andre Lhote.
- TAMBLYN, JOHN W. \_\_\_\_\_ Associate Professor of Music, 1948, 1957  
B.S., Auburn University; M.Mus., Eastman School of Music.
- TANGER, GERALD EUGENE \_\_\_\_\_ Professor of Mechanical Engineering, 1958, 1960  
B.S., South Dakota School of Mines & Tech.; M.S., Brown University; Ph.D., Oklahoma State.
- TAUBE, FREDERICK W. \_\_\_\_\_ Instructor of Men's Physical Education, 1960  
B.S., State University of New York; M.Ed., University of North Carolina.
- TAYLOR, EDWARD B. \_\_\_\_\_ Assistant Director of Engineering Extension, 1957, 1960  
B.S., Davidson College; B.S.T.M., North Carolina State; M.S., Columbia.
- TEER, PATRICIA A. \_\_\_\_\_ Instructor of Pathology and Parasitology, 1959  
D.V.M., Auburn University.
- TERESA, GEORGE W. \_\_\_\_\_ Assistant Professor of Bacteriology, 1959  
B.S., Arkansas A. & M.; M.S., Arkansas; Ph.D., Kansas State College.
- THACKER, HENRY R. \_\_\_\_\_ Associate Professor of Civil Engineering, 1956, 1959  
B.S., M.S., Virginia Polytechnic Institute.
- THOMASSON, STANLEY \_\_\_\_\_ Assistant Professor of Architecture, 1959  
B.Arch., Tulane.
- THOMPSON, SIDNEY LEE \_\_\_\_\_ Associate Professor of Mathematics, 1937, 1948  
B.S., Birmingham-Southern; M.S., Tulane; M.A., Michigan.
- TINCHER, WILBUR A., JR. \_\_\_\_\_ Assistant Professor of Education and  
A.B., M.A., Ed.D., Kentucky. Coordinator of Student Personnel Services, 1958
- TOMLIN, JAMES GROVER \_\_\_\_\_ Instructor in Men's Physical Education, 1958  
B.S., Auburn University.
- TORRANS, ANNE \_\_\_\_\_ Instructor in Speech, 1959  
B.A., Northwestern State College; M.A., Louisiana State.
- TUCKER, HOWARD F. \_\_\_\_\_ Associate Professor of Animal Science, 1952, 1958  
B.S., M.S., Ph.D., Auburn University.
- TURNER, HENRY F. \_\_\_\_\_ Assistant Professor of Zoology-Entomology, 1950, 1956  
B.S., M.S., Auburn University; Ph.D., Iowa State.
- \*TURNER, KATHRYN \_\_\_\_\_ Instructor of Home Economics, 1956  
B.S., Oklahoma A. & M.; M.S., Iowa State.
- TURNER, LOUISE K. \_\_\_\_\_ Assistant Professor of Women's Physical Education, 1937, 1946  
B.A., Southwestern Louisiana Institute; M.A., M.S., Louisiana State.
- TURNER, DEWEY M. \_\_\_\_\_ Associate Professor of Animal Science, 1940, 1946  
B.S., Auburn University; M.S., Illinois.
- TYER, DORA \_\_\_\_\_ Research Professor of Home Economics, 1959  
B.S., M.A., M.S., Ed.D., Tennessee.
- UMBACH, ARNOLD W. \_\_\_\_\_ Head Professor of Men's Physical Education, 1944, 1945  
B.S., Southwestern State Teachers; M.A., Colorado State College of Education.

\* Temporary.

\*\* On leave.

- \*VALLERY, GEORGIA GIVENS \_\_\_\_\_ *Instructor in Psychology*, 1951, 1957  
B.S., M.A., Louisiana State; M.S., Auburn University.
- \*VANCE, OLLIE LAWRENCE \_\_\_\_\_ *Instructor in Mechanical Engineering*, 1959  
B.M.E., Auburn University.
- VAN DE MARK, MILDRED S. \_\_\_\_\_ *Associate Professor of Home Economics*, 1938, 1955  
B.S., Auburn University; M.A., Columbia.
- VAUGHN, JOHN T. \_\_\_\_\_ *Assistant Professor of Large Animal Surgery  
and Medicine*, 1955, 1959  
D.V.M., Auburn University.
- VENEZKY, DAVID L. \_\_\_\_\_ *Assistant Professor of Chemistry*, 1960  
B.S., George Washington.
- VESTAL, DONALD M., JR. \_\_\_\_\_ *Head Professor of Mechanical Engineering*, 1959  
B.S.M.E., B.S.E.E., M.S.M.E., Texas A. & M.
- VIVES, DONALD LOUIS \_\_\_\_\_ *Associate Professor of Chemical Engineering*, 1953, 1957  
B.S., M. S., Columbia.
- WALDO, MYRTICE R. \_\_\_\_\_ *Assistant Professor of Economics and Business  
Administration*, 1949, 1959  
B.S., M.S., Auburn University.
- WALDROP, FLOYD H. \_\_\_\_\_ *Assistant Professor of Naval Science*, 1959  
B.S., U.S. Naval Academy; Major, U.S. Marine Corps.
- WALDROP, HERBERT \_\_\_\_\_ *Instructor of Men's Physical Education*, 1960  
B.S., Auburn University.
- WALL, MINNIE \_\_\_\_\_ *Head, Catalog Dept. (Library), and Assistant Professor*, 1947, 1959  
A.B., Tift College; B.S.L.S., Peabody College for Teachers; M.Educ., Auburn University.
- WALKER, DONALD F. \_\_\_\_\_ *Associate Professor of Large Animal Surgery  
and Medicine*, 1958  
D.V.M., Colorado State.
- WALTERS, EDWIN S. \_\_\_\_\_ *Assistant Professor of Military Science*, 1959  
B.S., Kentucky; M.S., New York; Captain, Engineers.
- WALTON, MARTHA \_\_\_\_\_ *Assistant Professor of Women's Physical Training*, 1945, 1952  
B.S., Auburn University; M.A., Colorado State College of Education.
- \*WARRINGTON, THOMAS L. \_\_\_\_\_ *Instructor in Foreign Languages*, 1960  
B.S., Mississippi College; M.A., Mississippi.
- WARD, BENJAMIN P. \_\_\_\_\_ *Associate Professor of Mechanical Engineering*, 1950  
B.S., U.S. Naval Academy; M.S.M.E., Columbia.
- WARE, LAMAR M. \_\_\_\_\_ *Head Professor of Horticulture*, 1923, 1931  
B.S., M.S., Auburn University.
- WARNER, JOHN ELLSWORTH \_\_\_\_\_ *Head, Reference Department (Library)  
and Assistant Professor*, 1959, 1960  
B.S., B.S.L.S., State College for Teachers (Albany, N.Y.); M.A., Teachers College (Columbia University).
- WARREN, WILLIAM MICHAEL \_\_\_\_\_ *Head Professor of Animal Science*, 1955, 1957  
B.S., Michigan State; M.S., Texas A. & M.; Ph.D., Missouri.
- WASHINGTON, WILLIAM TAYLOR \_\_\_\_\_ *Instructor in Men's Physical Education*, 1958  
B.S., Auburn University.
- WATERS, WILLIAM T. \_\_\_\_\_ *Associate Professor of Textile Technology*, 1958  
B.S.T.E., Clemson; M.S., Institute of Textile Technology.
- WATWOOD, VERNON B. \_\_\_\_\_ *Professor of Civil Engineering*, 1929, 1941  
B.C.E., M.C.E., Auburn University.
- WEAR, JOHN I. \_\_\_\_\_ *Professor of Soils*, 1938, 1959  
B.S., M.S., Auburn University; Ph.D., Purdue.
- \*WEAVER, ANDREW MALCOLM \_\_\_\_\_ *Assistant Professor of Education*, 1960  
B.S., Tennessee Polytechnic Institute; M.A., Ed.D., Tennessee.
- WEAVER, CHARLES HADLEY \_\_\_\_\_ *Westinghouse Professor of Electrical Engineering*, 1959  
B.S.E.E., M.S.E.E., Tennessee; Ph.D., Wisconsin.
- WELLS, JOSEPH WILLARD \_\_\_\_\_ *Associate Professor of Architecture*, 1956  
B.Arch., Cornell University.
- WHITE, JOHN BENJAMIN \_\_\_\_\_ *Instructor in Forestry*, 1958  
B.S.F., Georgia; M.F., North Carolina State.

- WHITE, MORRIS \_\_\_\_\_ *Professor of Agricultural Economics, 1950, 1960*  
B.S., Auburn University; M.S., Ph.D., Purdue.
- WHITE, RAYMOND H. \_\_\_\_\_ *Professor of Education, 1950, 1951*  
B.S., Southwest Missouri State; A.B., Drury; A.M., Chicago; Ed.D., Teachers College, Columbia.
- WHITE, VIRGINIA \_\_\_\_\_ *Assistant Professor of Home Economics, 1954, 1956*  
B.S., Alabama College; M.S., Tennessee.
- WHITEFORD, ROBERT D. \_\_\_\_\_ *Associate Professor of Anatomy and Histology, 1959*  
M.S., Iowa State College; D.V.M., Georgia.
- WHITINGER, LEON E. \_\_\_\_\_ *Head, Reference Dept. (Library), and Associate*  
B.S., Minnesota State College; M.A.L.S., Minnesota. *Professor, 1958, 1959*
- WHITT, RICHARD E. \_\_\_\_\_ *Instructor in Electrical Engineering, 1959*  
B.E.E., Auburn University.
- WIGGINS, AGEE M. \_\_\_\_\_ *Professor of Large Animal Surgery and Medicine, 1946, 1959*  
M.S., Kansas State College; D.V.M., Auburn University.
- WIGGINS, EARL L. \_\_\_\_\_ *Associate Professor of Animal Science, 1956*  
B.S., M.S., Oklahoma A. & M.; Ph.D., Wisconsin.
- WILBANKS, BILLIE SUE \_\_\_\_\_ *Assistant Professor of Education, 1960*  
B.S., M.Ed., Georgia.
- WILBANKS, MARY ELIZABETH \_\_\_\_\_ *Gift and Exchange Librarian and Instructor, 1959*  
A.B., Alabama College; M.A., Emory; M.S.L.S., North Carolina.
- WILHELM, WILLIAM J. \_\_\_\_\_ *Instructor in Engineering Graphics, 1960*  
B.S.M.E., Auburn University.
- WILLIAMS, BILL M. \_\_\_\_\_ *Instructor in Engineering Graphics, 1959*  
B.S., Auburn University.
- WILLIAMS, BYRON B., JR. \_\_\_\_\_ *Associate Professor of Pharmacology, 1951, 1954*  
B.S., M.S., Ph.D., Florida.
- WILLIAMS, ELIZABETH GRIMES \_\_\_\_\_ *Assistant Professor of Economics and*  
B.S., M.S., Auburn University. *Business Administration, 1946, 1959*
- WILLIAMS, ERNEST \_\_\_\_\_ *Professor of Mathematics, 1934, 1948*  
B.S., Birmingham-Southern; M.S., Auburn University; Ph.D., Michigan.
- WILLIAMS, HUGH \_\_\_\_\_ *Associate Professor of Art, 1957, 1959*  
B.App.Art, Auburn University; M.A., Columbia.
- WILLIAMS, RALPH I. \_\_\_\_\_ *Professor of Air Science, 1960*  
B.A., M.A., University of Maryland; Colonel, United States Air Force.
- WILLIAMSON, EDWARD C. \_\_\_\_\_ *Assistant Professor of History, 1957*  
A.B., M.A., Florida; Ph.D., Pennsylvania.
- WINGARD, JOHN WILLIAM \_\_\_\_\_ *Instructor in Industrial Laboratories, 1957*  
B.S., Auburn University.
- WINGARD, ROBERT E. \_\_\_\_\_ *Research Professor of Chemical Engineering, 1932, 1957*  
B.S., M.S., Auburn University.
- \*WOOD, DONALD RAY \_\_\_\_\_ *Instructor in Physics, 1959, 1960*  
B.S.E.P., Auburn University. (Resigned Effective August 31, 1960.)
- \*WOOD, HARVEY G. \_\_\_\_\_ *Instructor in Physics, 1958*  
B.A., Olivet College.
- \*WOODALL, FRANCES \_\_\_\_\_ *Instructor in English, 1952*  
A.B., Western Kentucky State College; M.A., Kentucky. (Resigned Effective May 31, 1960.)
- WOODALL, JAMES R. \_\_\_\_\_ *Associate Professor of English, 1952, 1957*  
B.S., Murray State; M.A., Kentucky; Ph.D., Vanderbilt.
- \*WOODARD, JAMES C. \_\_\_\_\_ *Instructor of Pathology and Parasitology, 1960*  
D.V.M., Auburn University.
- WOODLEY, CHARLES H. \_\_\_\_\_ *Assistant Professor of Physiology and*  
M.S., D.V.M., Auburn University. *Pharmacology, 1958, 1959*
- WRIGHT, THOMAS L. \_\_\_\_\_ *Assistant Professor of English, 1960*  
B.A., Tulane; M.A., Ph.D., Manchester.
- YEAGER, J. H. \_\_\_\_\_ *Professor of Agricultural Economics, 1946, 1957*  
B.S., M.S., Auburn University; Ph.D., Purdue.

- YEH, GEORGE C. \_\_\_\_\_ Associate Professor of Chemical Engineering, 1957  
B.S., National Taiwan University; M.S., Ph.D., University of Toronto, Canada.
- YORK, LEO W. \_\_\_\_\_ Head, Acquisitions Department (Library)  
B.Mus., Oregon; M.M.E., M.S.L.S., Florida State. \_\_\_\_\_ and Assistant Professor, 1960
- YOUNG, LUTHER M. \_\_\_\_\_ Associate Professor of Men's Physical  
B.S., M.S., Auburn University. \_\_\_\_\_ Education, 1944, 1959
- ZIEGLER, PAUL F. \_\_\_\_\_ Associate Professor of Chemistry, 1949, 1958  
B.S., Otterbein; M.S., Cincinnati.
- ZIVKOVIC, PETER D. \_\_\_\_\_ Instructor in English, 1960  
B.S., M.A., Illinois.
- ZURFLIEH, JANE P. \_\_\_\_\_ Instructor in English, 1960  
B.A., M.A., Florida State.
- ZURFLIEH, THOMAS PETER \_\_\_\_\_ Instructor in Engineering Graphics, 1960  
B.S., Massachusetts Institute of Technology.

### Graduate and Research Assistants

- ADAIR, BILLY T. \_\_\_\_\_ Graduate Assistant, Agricultural Education, 1960  
B.S., Auburn University.
- ADAMS, ANNIE RUTH \_\_\_\_\_ Research Assistant in Home Economics, 1960  
B.S., Auburn University.
- ANDERS, EDWARD B. \_\_\_\_\_ Graduate Assistant in Mathematics, 1960  
B.S., Louisiana Polytechnic Institute; B.S., Pennsylvania State University; M.E., M.S., North-western Louisiana State College.
- ARNOLD, TERRY GRANTHAM \_\_\_\_\_ Graduate Assistant in Civil Engineering, 1960  
B.C.E., Auburn University.
- ATKINSON, RONALD O. \_\_\_\_\_ Graduate Assistant in Mathematics, 1959  
B.S., Jacksonville State College.
- AUTREY, JACQUELINE \_\_\_\_\_ Graduate Assistant, Psychology, 1960  
A.B., Judson; M.Ed., Auburn University. (Resigned Effective September 15, 1960.)
- BARROW, ALYCE \_\_\_\_\_ Graduate Assistant, Secondary Education, 1960  
B.A., Birmingham-Southern; M.Ed., Auburn Univ. (Resigned Effective September 15, 1960.)
- BECKERS, WILMER H. \_\_\_\_\_ Graduate Assistant, Psychology, 1959, 1960  
B.S., Birmingham-Southern; M.Ed., Auburn University.
- BENNER, VIVIAN L. \_\_\_\_\_ Graduate Assistant in History, 1959  
B.S., Auburn University.
- BENNETT, CARL M. \_\_\_\_\_ Graduate Assistant in Mathematics, 1958, 1959  
B.S.E.E., M.S., Auburn University.
- BLACKWELL, FRANK J. \_\_\_\_\_ Graduate Assistant in Chemical Engineering, 1959  
B.S., Auburn University.
- BLOW, WILLIAM O. \_\_\_\_\_ Graduate Assistant, Secondary Education, 1960  
B.S., Bob Jones. (Resigned Effective September 15, 1960.)
- BRADLEY, CAROLYN F. \_\_\_\_\_ Graduate Assistant in Zoology-Entomology, 1960  
A.B., LaGrange College.
- BRITT, JOHN ANDREW \_\_\_\_\_ Graduate Assistant in Education, 1959  
B.S., Troy State; M.S., Florida State.
- BROWN, JUDITH \_\_\_\_\_ Graduate Assistant in Chemistry, 1960  
B.S., Iowa State.
- BREYER, MARY ANN \_\_\_\_\_ Graduate Assistant in English, 1959  
B.A., Vanderbilt.
- BULLINGTON, RUENETTE \_\_\_\_\_ Graduate Assistant in Home Economics, 1959  
B.S., Berry College.
- BUNTYN, TOMMY JOE \_\_\_\_\_ Graduate Assistant in Mathematics, 1959  
B.A., Mississippi State.
- BURDESHAW, JOHN A. \_\_\_\_\_ Graduate Assistant in Mathematics, 1959  
B.S., Auburn University.
- BURGESS, CLIFFORD \_\_\_\_\_ Graduate Assistant, Educational Administration, 1960  
B.A., Mercer University; M.A., George Peabody College.

CARDONE, JOSEPH MARIO B.S., Birmingham-Southern.	Graduate Assistant in Mathematics, 1960
CLAPP, CAMELIA B.S., Auburn University.	Graduate Assistant in Chemistry, 1959
CLAPP, DONALD LEE B.S., Oregon State College.	Graduate Assistant in Chemistry, 1957
COFFEEN, RICHARD OWEN B.S.A., Florida; M.A., New York. (Resigned Effective September 15, 1960.)	Graduate Assistant, Elementary Education, 1958, 1960
COLBERT, DAVID L. B.S., A.B., Auburn University.	Graduate Assistant in Mathematics, 1960
COLLINGS, MARGARET A.B., LaGrange College.	Graduate Assistant in Zoology-Entomology, 1960
CONRADI, HAROLD G. B.A., Augustana College.	Graduate Assistant in History, 1960
COUMES, JOHN V. B.A., Southeastern Louisiana College.	Graduate Assistant in English, 1960
COVINGTON, JAMES D. B.S., Auburn University; M.A., Vanderbilt.	Graduate Assistant, Educational Administration, 1960
DAVIS, ANNETTE J. B.S., Georgia State College for Women.	Graduate Assistant in History, 1960
DIXON, CAROLYN JONES B.S., Auburn University.	Graduate Assistant in English, 1960
DOPSON, ELIZABETH B.S., Auburn University.	Graduate Assistant in Home Economics, 1960
DRAPER, EVELYN B. B.S., Auburn University.	Graduate Assistant in Pharmacy, 1959
DUDKO, STANLEY J. B.A., Belmont Abbey College.	Graduate Assistant in Economics and Business Administration, 1960
DUNN, ROYCE ELDRIDGE A.B., Athens Liberal Arts College.	Graduate Assistant in English, 1960
EDMONDS, ED MOON B.A., Stetson.	Graduate Assistant, Psychology, 1960
EDWARDS, HAZEL B.S., Auburn University.	Graduate Assistant in Mathematics, 1960
EMMERLING, FRANK C. A.B., San Jose State; M.A., Stetson.	Graduate Assistant, Psychology, 1959, 1960
ENGLE, HARRY A. A.A., Graceland; B.S., Troy State; M.Ed., Auburn University.	Graduate Assistant, Secondary Education, 1959, 1960
FAUST, RUBY JO R. B.S., Auburn University.	Graduate Assistant in English, 1960
FEARN, RICHARD L. B.S., Auburn University.	Research Assistant in Physics, 1960
FITZPATRICK, MARJORIE H. B.S., Jacksonville State College.	Graduate Assistant in Mathematics, 1952, 1960
FOLEY, DAVID M. A.B., Belmont Abbey College.	Graduate Assistant in History, 1960
FORD, RALPH M. B.E.P., Auburn University.	Graduate Assistant in Mathematics, 1960
FOREMAN, JAMES WHEELER B.S.C.E., Auburn University.	Graduate Assistant in Civil Engineering, 1960
FRADY, CHARLES S. B.S., Western Carolina College.	Graduate Assistant in Mathematics, 1960
FRANCIS, ROBERT C. B.C.E., Auburn University.	Graduate Assistant in Civil Engineering, 1958
FRANKLIN, CHARLES M., JR. A.B., Alabama; M.S., Troy State.	Graduate Assistant, Psychology, 1960
FRITZ, PAUL J. A.B., Washington University (St. Louis).	Graduate Assistant in Chemistry, 1958

GILLIAM, BOB J. B.A., M.A., Harding.	Graduate Assistant, Psychology, 1959, 1960
GOODLETT, HENRY E. B.S., M.S., Troy State.	Graduate Assistant in Education, 1959
GRAF, RALPH R. B.E.E., Auburn University.	Graduate Assistant in Electrical Engineering, 1959
GRAY, ROY COOPER, JR. B.S., M.S., Kentucky.	Graduate Assistant in Animal Science, 1957, 1960
GROVES, PATRICIA A. B.S., Auburn University.	Graduate Assistant in Physics, 1960
HAKALA, LONNIE N. B.S., Auburn University.	Graduate Assistant in Mathematics, 1960
HAMMETT, MICHAEL E. B.S., Furman.	Graduate Assistant in Mathematics, 1960
HANNAH, RAY B.S., Maryville College.	Graduate Assistant in Chemistry, 1960
HARRISON, JOHN R. B.S.C.E., Auburn University.	Graduate Assistant in Civil Engineering, 1959
HARTWIG, MARGARET P. B.A., University of Wisconsin.	Graduate Assistant in Mathematics, 1960
HAWKINS, JONNIE RUTH B.S., Jacksonville State College.	Graduate Assistant in Mathematics, 1960
HEATHERLY, ROSE G. B.S., Auburn University.	Graduate Assistant in Economics and Business Administration, 1960
HENDERSON, BARBARA JEAN B.S., West Georgia.	Graduate Assistant, Elementary Education, 1960
HENDRICK, LYNN D. B.E.P., Auburn University.	Graduate Assistant in Physics, 1959
HOLLAND, EMORY EUGENE B.S., West Georgia; M.Ed., Auburn University.	Graduate Assistant, Educational Administration, 1960
HOOD, MELVIN V., JR. B.S., Mississippi College.	Graduate Assistant in Mathematics, 1960
HOOPER, JAMES WILLIAM B.S., Florence State College. (Resigned Effective September 15, 1960.)	Graduate Assistant in Mathematics, 1960
HORNE, DONALD L. B.S., Auburn University.	Graduate Assistant, Psychology, 1960
HOWIE, KEITH M. B.E.P., Auburn University.	Research Assistant in Physics, 1960
HUDSON, AROL B.S.A., Florida.	Graduate Assistant, Agricultural Education, 1960
HUMPHREY, JOHNNY M. A.B., B.S., Jacksonville State College; M.S., Auburn University.	Graduate Assistant in Mathematics, 1958, 1959
HURST, ROYSTON B.A., Mississippi.	Graduate Assistant in Zoology-Entomology, 1960
ISSOS, JAMES N. A.B., Birmingham-Southern.	Graduate Assistant in Mathematics, 1960
JACKSON, MARGARET ELLEN B.S., Muskingum College; M.S., Auburn University.	Graduate Assistant in Chemistry, 1956
JAEN, JONG KOOK B.Eng., Hanyang Institute of Technology.	Graduate Assistant in Physics, 1960
JAMIESON, FERNE C. A.B., Pfeiffer College.	Graduate Assistant in English, 1960
JAMIESON, THOMPSON R. A.B., Pfeiffer College.	Graduate Assistant in Chemistry, 1960
JOHNSON, EDGAR G. B.S.E.P., Auburn University.	Graduate Assistant in Physics, 1960
JOHNSON, HAROLD T. B.A., Troy State; M.Ed., Auburn University.	Graduate Assistant, Student Teaching and Observation, 1959, 1960



- JOHNSTON, JAMES HOOD ..... Graduate Assistant in Mathematics, 1960  
B.S., Auburn University.
- JONES, OSCAR HARVEY, JR. .... Graduate Assistant in Animal Science, 1960  
B.S., Auburn University.
- KADAMBY, SATYAN ..... Graduate Assistant in Pharmacy, 1960  
B.S., University of Poona, India; B.Pharmacy, Banaras Hindu University, India.
- KEBNS, H. VICTOR ..... Graduate Assistant, Secondary Education, 1959, 1960  
B.S., Auburn University; M.A., Teachers College, Columbia.
- KOART, VIRGIL P. .... Graduate Assistant in History, 1960  
A.B., Auburn University.
- KOLB, WILLIAM P. .... Graduate Assistant in Electrical Engineering, 1960  
B.S.E.E., Auburn University.
- LACERVA, PATRICIA ..... Graduate Assistant in English, 1960  
B.A., Southeastern Louisiana College.
- LAMMON, ELMER BURNS ..... Graduate Assistant in Mechanical Engineering, 1960  
B.A.E., Auburn University.
- LAWSON, SAMMY ..... Graduate Assistant in English, 1959  
B.A., Huntingdon.
- LOH, JACK ..... Graduate Assistant in Chemistry, 1960  
B.S., University of Texas.
- LOMAX, JANIE BETH ..... Graduate Assistant in Mathematics, 1959  
B.S., Mississippi College.
- LOPEZ, ANTONIO VINCENT ..... Graduate Assistant, Pharmaceutical Chemistry, 1959  
B.S., Auburn University.
- LU, CHIH-SHUN ..... Graduate Assistant in Physics, 1959  
B.S., Tunghai.
- LUKAWECKI, STANLEY ..... Research Assistant in Mathematics, 1955, 1960  
B.S., Southeastern Louisiana College; M.S., Auburn University.
- LUNCEFORD, WILLIAM E. .... Graduate Assistant, Psychology, 1959, 1960  
A.B., Howard; B.D., Th.M., Southern Baptist Seminary; M.A., Middle Tennessee.
- MALONEY, MICHAEL W. .... Graduate Assistant in Chemistry, 1960  
B.S., Auburn University.
- MANNY, CHARLES W. .... Graduate Assistant in Chemistry, 1960  
B.S., Auburn University.
- MAY, VERNON B. .... Research Assistant in Chemical Engineering, 1959  
B.E., Johns Hopkins.
- MAZERES, REGINALD M. .... Graduate Assistant in Mathematics, 1960  
B.S., Southwestern Louisiana Institute.
- MCDONALD, FRED L. .... Graduate Assistant in English, 1959  
B.A., Valdosta State College.
- MCILLWAIN, MARY DUNNE ..... Graduate Assistant in Home Economics, 1960  
B.S., Auburn University.
- MCMAHAN, WILLIAM ..... Graduate Assistant in Chemistry, 1959  
B.S., Auburn University.
- MEADORS, JOHN C. .... Research Assistant in Physics, 1959, 1960  
B.E.P., Auburn University.
- MEGIBBEN, CHARLES K. .... Graduate Assistant in Mathematics, 1960  
B.S., Southern Methodist.
- MITCHELL, NANCY ..... Graduate Assistant in Chemistry, 1960  
A.B., LaGrange College.
- MITCHELL, ELEN ROWELL ..... Graduate Assistant in English, 1960  
A.B., Berry College.
- MIZE, JIMMY ROY ..... Research Assistant in Economics and Business  
B.S., Florence State College. Administration, 1960
- MOON, TAK JIN ..... Graduate Assistant in Chemistry, 1960  
B.S., M.S., Yon-Sei University.
- MORRIS, BEVERLY S. .... Research Assistant in Home Economics, 1960  
B.S., Auburn University.

- MOSELEY, MARTHA H. *Graduate Assistant in Chemistry*, 1960  
B.S., Auburn University.
- NAHRSTEDT, GARY *Graduate Assistant in Education*, 1960  
B.S., Florida State.
- PATE, GEORGE L. *Graduate Assistant in Mathematics*, 1960  
B.S., University of Georgia; M.A., Peabody.
- PATTERSON, CHARLES *Graduate Assistant in Art*, 1960  
B.App.Art, Auburn University.
- PEACE, GEORGE MARION *Graduate Assistant in Electrical Engineering*, 1959  
B.E.E., Auburn University.
- PHILLIPS, MABRY S., JR. *Graduate Assistant in Physics*, 1960  
B.S.E.P., Auburn University.
- PHILLIPS, RAY C. *Graduate Assistant, Student Teaching and  
Observation*, 1959, 1960  
B.S., Cumberland; M.A., George Peabody College.
- PITTS, DEWELL *Graduate Assistant, Elementary Education*, 1960  
B.S., Georgia; M.Ed., Auburn University.
- POLLACIA, PHILLIP F. *Graduate Assistant in Mathematics*, 1960  
B.S., Louisiana Tech.
- POSEY, FELIX W. *Graduate Assistant, Secondary Education*, 1960  
B.S., M.Ed., Auburn University. (Resigned Effective September 15, 1960).
- PRITCHETT, DURA WAYNE *Graduate Assistant in English*, 1960  
B.S., Jacksonville State College.
- RAMEY, GEORGE EDWARD *Graduate Assistant in Civil Engineering*, 1960  
B.S.C.E., Auburn University.
- REEDER, CECIL M. *Graduate Assistant in Economics and  
Business Administration*, 1960  
B.C.S., B.B.A., Georgia (Atlanta Division).
- REGISTER, W. RAYMOND *Graduate Assistant in English*, 1959  
A.B., Howard.
- REID, SARAH FRANCIS *Graduate Assistant in Pharmacology*, 1960  
A.A., Sacred Heart; B.S., Auburn University.
- RICE, BILLIE ANN *Graduate Assistant in Mathematics*, 1959  
B.S., Auburn University.
- ROGERS, CHARLES L. *Graduate Assistant in Electrical Engineering*, 1959  
B.E.E., Auburn University.
- SALZMANN, FRANK LOUIS, III *Graduate Assistant in Mathematics*, 1960  
B.S., Auburn University.
- SANCHEZ-CALDAS, JOSE' *Graduate Assistant in Chemistry*, 1959  
B.S., University of Puerto Rico.
- SCHAEFER, CAROLYN RUTH *Graduate Assistant in Mathematics*, 1960  
B.S., Auburn University.
- SEARCY, DAVID K. *Graduate Assistant in Mechanical Engineering*, 1960  
B.S.M.E., Auburn University.
- SHIH, ANGELA *Graduate Assistant in Physics*, 1960  
B.Sc., Taiwan Normal University.
- SHOBE, RICHARD L. *Graduate Assistant in Mathematics*, 1960  
B.S. in E.E., M.S., Auburn University.
- SMITH, WESLEY E. *Graduate Assistant in Chemistry*, 1959  
B.S., Maryville College.
- SMITH, WILLIAM L. *Graduate Assistant in Mathematics*, 1960  
B.S., Mississippi College.
- SPIKES, PAUL W. *Graduate Assistant in Mathematics*, 1960  
B.S., M.A.Ed., Mississippi Southern.
- STEELE, HAROLD C. *Graduate Assistant, Secondary Education*, 1959, 1960  
B.S., Emory; M.A., Georgia.
- STRUCK, ROBERT F. *Research Assistant in Chemistry*, 1958, 1959  
B.S., M.S., Auburn University.
- SWANSON, CHARLES E. *Graduate Assistant in Chemistry*, 1960  
B.S., University of Illinois.



TALLAKSON, RAE	Graduate Assistant in English, 1960
B.A., Augustana College.	
THORNTON, BOB M.	Graduate Assistant, Psychology, 1960
B.S., M.S., Auburn. (Resigned Effective September 15, 1960.)	
TRAYLOR, DONALD R.	Graduate Assistant in Mathematics, 1960
B.A., Texas; M.S., Auburn University.	
TURNHAM, NETTIE KATHRYN	Research Assistant in Home Economics, 1960
B.S., Auburn University.	
WALTER, WILLIAM A.	Graduate Assistant in Electrical Engineering, 1960
B.S.E.E., Auburn University.	
WANG, TONGENG	Research Assistant in Economics and Business Administration, 1960
B.A., College of Law, National Taiwan.	
WEAVER, HARRY T.	Graduate Assistant in Physics, 1960
B.S., Auburn University.	
WEBSTER, PORTER	Research Assistant in Mathematics, 1952, 1959
B.A., Georgetown College; M.S., Auburn University.	
WEISSINGER, IRA H.	Graduate Assistant in History, 1960
B.A., Auburn University.	
WHITE, JO ANN	Graduate Assistant in Home Economics, 1960
B.S., Auburn University.	
WIGGINS, KENNETH E.	Graduate Assistant in Education, 1958, 1959
B.S., Troy State; M.S., Auburn University.	
WIGGINS, MARGARET M.	Graduate Assistant, Elementary Education, 1960
B.S., Troy State. (Resigned Effective September 15, 1960.)	
WILSON, JUDITH ANN	Graduate Assistant in English, 1960
A.B., Huntingdon.	
WOODLEY, ANNETTE	Graduate Assistant in Economics and Business Administration, 1959
B.S., Auburn University.	
WRIGHT, WHEELER COMPTON	Graduate Assistant in Mechanical Engineering, 1960
B.S.M.E., Auburn University.	
YOUNG, RICHARD EARLE	Graduate Assistant, Secondary Education, 1959
B.S., Florence State; M.A., Putney Graduate School of Teacher Education; M.Ed., Auburn Univ.	

### Other Officers and Staff

ADKINS, EVELYN H.	Secretary of Women's Housing, 1954
AGEE, BARBARA B.	Secretary, Agriculture, 1958
ALLGOOD, ERNEST W.	Transportation Foreman, Buildings and Grounds, 1948
ALLGOOD, JAMES L.	Maintenance Custodian, Women's Dormitories, 1954
ALLGOOD, JOSEPHINE	Stock Clerk, Food Service, 1949, 1959
AMENT, BENJAMIN DONALD, JR.	Personnel Assistant, Nonacademic Personnel, 1960
B.S., Central Missouri State College.	
AMES, LAVERNE	Secretary, Field Services, School of Education, 1959
ANDERSON, ANITA B.	Clerk, Chemistry Library, 1957, 1960
ATCHESON, BEVERLY A.	Typist, Agricultural Economics, 1960
ATCHESON, THOMAS E.	Asst. Photographer, Photo. and Duplicating Service, 1959
ATTLEBERGER, FREDERICK RAYMOND	Laboratory Technician, Infirmary, 1941
M.T., Franklin School of Science and Arts.	
BACHELLER, CAROL	Writer, Education Interpretation Service, 1960
BACHELLER, JOHN DUDLEY	Counselor, Student Guidance Service, 1960
B.S., M.S., Florida State University.	
BAGBY, DELLA M.	Secretary, Agricultural Education, 1951, 1957
BAILEY, BESSIE	Chief Switchboard Operator, Buildings and Grounds, 1945
BAILEY, SALLY RUSH	Clerk "A", Registrar's Office, 1960
B.A., Auburn University.	
BAKER, PATRICIA	Typist, Physiology and Pharmacology, 1959

BALLARD, WILLIAM J.	Acting Program Director, Educational Television, 1955, 1960 B.S., Auburn University; M.S., Syracuse University.
BAMBERG, MARTHA	Registered Nurse, Infirmary, 1958
BARCLAY, MARIAN	Clerk, Graduate Placement, 1960 B.S., Auburn University.
BARCLAY, RUTH STARR	Clerk, Pharmacy Library, 1959
BAREFOOT, JULIUS E.	Administrative NCO, Army ROTC, 1960 Master Sergeant, United States Army.
BARNES, ANNA P.	Head Resident of Lupton Hall and College Chaperone, 1945, 1956 B.M., Judson.
BARNES, SALLY	Secretary, Secondary Education, 1959
BARROW, WILLIAM OWENS	Senior Counselor, Student Guidance Service, 1948, 1951 A.B., Birmingham-Southern; M.A., Peabody.
BARTEE, ANNETTE M.	Bookkeeper, Food Service, 1951, 1957
BARTLETT, KAY	Tabulating Machine Operator, Business Office, 1960
BARTON, FREIDA C.	Head Resident of Susan Smith Cottage, 1956
BARTON, JOHN STANLEY	Senior Pilot, Aeronautical Engineering, 1956 B.S., Auburn University.
BATES, CAROLYN	Typist, English Department, 1960
BASS, LOUISE	Secretary, English Department, 1937
BAUGHAN, JUDITH	Typist, Pre-Engineering, 1960
BECKWITH, WILLIAM H.	Athletic Sports Editor and Director of Sports Public Relations, 1951, 1958 Clerk "A", Registrar's Office, 1959
BEESEY, CECILIA ROACH	Stenographer, Alumni Office, 1941, 1948
BENNETT, MARTHA A.	Clerk, Veterinary Library, 1957
BENSON, LUCIA ANITA	Asst. Photographer, Photo. and Duplicating Service, 1957, 1959
BERRY, ARTHUR D.	Clerk, Accounting, Business Office, 1959
BETZ, BARBARA	Stenographer, Pathology and Parasitology, 1958, 1959
BICKEL, HESTER	Sr. Tabulating Machine Operator, Business Office, 1945, 1959
BICKEL, MARGARET	Assistant to Director, Buildings and Grounds, 1940, 1945
BICKEL, O. W.	Secretary, School of Chemistry, 1934
BIDEZ, ALICE B.	Housing Cashier, Magnolia Dormitories, 1960
BLACK, CLAIRE	Senior Clerk, School of Science and Literature, 1947, 1959 B.S., Auburn University.
BLAKE, BRUCE D.	Clerk Stenographer III, Vocational Agriculture, 1929, 1952
BLANTON, MARGARET R.	Cashier, Business Office, 1945, 1959
BONEY, LOUISE B.	Typist, Business Office, 1960
BONNER, PATRICIA V.	Typist, Engineering Graphics, 1960
BOWDEN, RITA A.	Administrative NCO, Army ROTC, 1960 Master Sergeant, United States Army.
BOWES, ARTHUR S.	Construction Engineer, Buildings and Grounds, 1945
BOWMAN, JOSEPH R.	Engineering Aide, Educational Television, 1960
BRACKIN, HERBERT GLENN	Secretary, Auburn Development, 1958, 1960
BRACKIN, PATRICIA L.	Stenographer, Dean of Faculties, 1960
BRADLEY, JUDY	Stenographer, News Bureau, 1960
BRAY, SARA	Secretary, Dean of Engineering, 1957, 1960
BRITTAIN, JOYCE T.	Manager, Magnolia Hall, 1957 B.F.A., Georgia; M.A., Columbia.
BRITTAIN, R. L.	Assistant to the Dean of the Graduate School, 1941, 1951 B.S., M.S., Auburn University.
BRITTIN, RUTH L.	Secretary, Mechanical Engineering, 1959
BROTHERS, PATRICIA	Assistant Manager, Auburn Union, 1960
BULLARD, TED	Typist, Graduate School, 1960
BUNES, GRETHER M.	Secretary, Educational Administration, 1959, 1960
BUSH, SHIRLEY	

CAINE, LEON D.	Floor Maintenance Foreman, Buildings and Grounds, 1946, 1957
CARGILE, ROY C.	Bursar, Business Office, 1945
B.S., M.S., Auburn University.	
CARLISLE, MARIAN SUE	Typist, Mathematics Department, 1960
CARLSON, NORMAN	Sports Publicist, 1959
B.S., Florida.	
CHESNUTT, FRANCES SHI	Secretary to Scholarship Committee, 1956
B.S., Auburn University.	
CLAY, MARJORIE GROTH	Secretary, Auburn Athletic Department, 1954
B.S., Auburn University.	
CLOYD, THOMAS C.	Warehouse Manager, Food Service, 1946, 1951
COBBS, SUE NETHERY	Clerk "A", Registrar's Office, 1960
B.A., Auburn University.	
*COCHRAN, REBECCA HALL	Stenographer, Psychology, 1959
(Resigned Effective March 31, 1960.)	
COLGAN, J. MARIE	Stenographer, Civil Engineering, 1957
COLLINS, FLORENCE	Laboratory Technician, Pathology and Parasitology, 1960
Registered Nurse, St. Margaret's Hospital.	
COLON, KAREN S.	Typist "A", Animal Science, 1960
COLVIN, ELSIE M.	Typist, Botany and Plant Pathology, 1960
CONNELL, PHYLLIS B.	Clerk "A", Catalog Department, Library, 1958, 1959
CONRADT, CAROL R.	Library Assistant, Reference Department, Library, 1960
COOK, CLARENCE E.	Manager, Auburn Union, 1960
B.A., M.A., Birmingham-Southern.	
COOK, LINDA	Typist, Chemical Engineering, 1960
COPELAND, MILDRED B.	Typist "A", Air Force ROTC, 1951
COPPEDGE, HELEN	Dietitian, Alumni Cafeteria, 1952, 1953
B.S., Oklahoma A. & M.	
CORR, RALEIGH	Laboratory Mechanician, Physics, 1958
COX, PAULA S.	Clerk, Catalog Department, Library, 1960
CREEK, GLORIA	Registered Nurse, Infirmary, 1960
CREWS, HESTER	Secretary, Pathology and Parasitology, 1958, 1959
CROWE, MARY	Stenographer, Secondary Education, 1960
CRUTCHER, MILDRED	Laboratory Technician, Physiology and Pharmacology, 1960
CULLARS, FRANCES P.	Secretary, Small Animal Surgery and Medicine, 1950, 1959
DAVID, LAURA VAUGHN	Secretary, Department of Architecture, 1959
DAVIDSON, PAT	Stenographer, Veterans Affairs, 1960
DAVIS, ANNE W.	Stenographer, Business Office, 1959
DAVIS, JOY JACOBS	Stenographer, Registrar's Office, 1960
DAVIS, LUTHER E.	Laboratory Mechanician, Textile Technology, 1955
DAVIS, MAGGIE LEE	Secretary, Naval ROTC, 1952
DAVIS, MARY A.	Clerk, Housing, 1955, 1959
DAVIS, MYRTIE K.	Secretary, Business Office, 1959
DAWSON, MILLARD E.	Chief Security Officer, Buildings and Grounds, 1951
DELONEY, SUSAN G.	Assistant Dean of Women, 1955, 1957
B.S., Auburn University; M.S., Cornell.	
DENNIS, MARIANNE	Lab. Technician "A", Anatomy and Histology, 1958, 1959
DEVALL, ELNORA	Assistant Dietitian, Magnolia Dining Hall, 1960
B.S., Syracuse; M.S., Auburn University.	
DILLMAN, THOMAS B.	Radio Repairman, Army ROTC, 1959
SP5, United States Army.	
DONER, BARBARA BRADFORD	Senior Clerk, Registrar's Office, 1956, 1959
DOROUGH, J. D.	Pest Control Foreman, Buildings and Grounds, 1949
DOWLING, ROSE C.	Typist, Industrial Management, 1959

\* Temporary.

DUCK, MARY	Stenographer, Physics Department, 1959
DUGGER, FOWLER, JR.	Adm. Asst., Editor, Development Publications, 1953, 1960
A.B., Alabama; M.A., Duke.	
**DUNCAN, ARLENE	Audio-Visual Technician, Library, 1959, 1960
DUNLOP, JOHN W.	Acting Director, Educational Television, 1955, 1960
B.A., Auburn University.	
DUNN, BERTA	Adm. Secretary & Secretary to Board of Trustees, President's Office, 1919, 1959
DUPREE, JAMES EDWARD	Assistant in Electrical Engineering, Auburn Research Foundation, 1959
B.E.E., Auburn University.	
DUPREE, JEHNELL F.	Clerk "A", Engineering Library, 1958, 1959
DURDEN, VIRGINIA	Typist, Engineering Administration, 1959
DURDEN, VIRGINIA	Secretary, Student Affairs, 1959
DURHAM, WILTON T.	Stock Room Clerk, Pharmacy, 1959
EARNEST, SHIRLEY LAVERNE	Clerk, Director's Office, Library, 1958
EDEN, THOMAS M.	Producer-Director, Educational Television, 1953, 1955
B.S., Auburn University.	
EDWARDS, CLERCIE	Assistant Registrar, Registrar's Office, 1938, 1945
A.B., Huntingdon.	
ELLIS, EMILY RUTH	Clerk, Alumni Office, 1958
ELLIS, MATTIE NORMAN	Senior Secretary, School of Agriculture and Agricultural Experiment Station, 1935, 1959
ENGLER, BETTY RUTH	Clerk "A", Registrar's Office, 1959
ENOCH, MARY BETH	Secretary, Economics and Business Administration, 1958
ESKALD, ELAYNE	Secretary, Engineering Extension, 1959
ESTES, NELLIE	Secretary, Women's Physical Education, 1960
EVANS, ELLA SMITH	Secretary, School of Science and Literature, 1943, 1944
FAULKNER, LEWIS W.	Shop Mechanician, Industrial Laboratories, 1952
*FILES, A. J.	Technician, Physics, 1959
FINCHER, GLENDA B.	Clerk, Catalog Department, Library, 1959, 1960
FINCHER, STALEY E.	Farm Foreman, Poultry Science, 1959
B.S., Auburn University.	
FISHER, CATHERINE C.	Secretary, War Eagle Cafeteria, 1957
FLANAGAN, GEORGE DOUGLAS	Plant Manager, Dairy Science, 1935
FLETCHER, IMOGENE	Clinic Clerk, Infirmary, 1944, 1950
FLYNN, HARRY	Engineering Aide, Educational Television, 1960
FOSTER, EMILY LIFSEY	Secretary, Auburn Athletic Department, 1948, 1951
B.S., Auburn University.	
FOSTER, GEORGE C.	Assistant to the Dean, School of Science and Literature, 1952
B.S., Auburn University.	
FOSTER, MARY R.	Bookkeeping Machine Operator, Business Office, 1959
FOWLER, FRANCES	Senior Secretary, Dean of Faculties, 1959, 1960
FREEMAN, JAMIE HARDIN	Clerk "A", Registrar's Office, 1960
GALLOWAY, ELOISE	Senior Clerk, Registrar's Office, 1960
GARDNER, DORIS E.	Secretary, Poultry Science, 1949
*GEIGER, GEORGE EUGENE	Acting Circulation Librarian, 1960
B.S., Auburn University.	
GILLESPIE, LYDIA	Typist, Large Animal Surgery and Medicine, 1960
GILLILAND, CLARA DEAN	Laboratory Technician, Civil Engineering, 1960
GODARD, GLORIA TOLBERT	Counselor, Student Guidance Service, 1958
A.B., Howard; M.S., Auburn University.	
GOODMAN, VIRGINIA	Typist, Home Economics, 1957, 1959
GOTHARD, NANCY, R.N.	Evening Supervisor, Infirmary, 1956, 1959
GRANNIS, LORETTA S.	Dietitian, Women's Dining Hall, 1957, 1959
B.S., Kentucky.	

\* Temporary.

\*\* On leave.

GRAY, LEON A., JR.	Laboratory Mechanician, Civil Engineering,	1956
GRAY, VIVIAN FORD	Auditor, Business Office,	1944, 1959
GREGORY, BENJAMIN FRANKLIN	Assistant in Electrical Engineering,	
B.E.E., Auburn University.	Auburn Research Foundation,	1959
GRIFFIN, G. T.	Producer-Director, Educational Television,	1957
B.A., Alabama.		
GRIMMER, GLYNN THOMAS	Draftsman, Buildings and Grounds,	1959
GUTTRIDGE, MARY HELEN	Clerk "A", Auditing, Business Office,	1957, 1959
HACKNEY, SUSIE I.	Secretary, Army ROTC,	1927
HAFFNER, PATSY LOWE	Stenographer, Speech Department,	1960
HAHN, ALLEN W.	Research Assistant, Auburn Research Foundation,	1958
B.S., D.V.M., Missouri.		
HAINES, JOSEPHINE WHITTIER	Library Assistant, Architecture Library,	1956
A.B., M.A., Ohio Wesleyan University.		
HANEY, PATTIE	Alumni Records Supervisor, Alumni Office,	1934, 1948
HANNAH, RUBY B.	Bookkeeping Machine Operator, Business Office,	1954, 1959
HARDWICK, SARA HOLLIS	Tabulating Machine Operator, Registrar's Office,	1960
HARMON, PATRICIA	Stenographer, Horticulture,	1959
HARRIS, PAUL C.	Armorer, Army ROTC,	1959
Sergeant, United States Army.		
*HARRISON, SHIRLEY A.	Audio-Visual Technician, Library,	1960
HARTLEY, ELAINE B.	Secretary, Veterans Affairs,	1958
B.S., Valdosta State College.		
HARVILL, JON DAVIS	Graduate Counselor, Auburn Hall,	1960
HATCHETT, LOUISE R.	Switchboard Operator, Buildings and Grounds,	1959
HAWKINS, CARL L.	Shop Foreman, Buildings and Grounds,	1959
HAWKINS, MARTHA	Typist, Acquisitions Department, Library,	1960
HEFNER, ROY	Shop Mechanician, Industrial Laboratories,	1953
HELMS, JAMES O., JR.	Farm Superintendent, Agricultural Engineering,	1949
B.S., Auburn University.		
HENRY, PAUL W.	Assistant Business Manager, Business Office,	1954
HIGGINS, IRIS F.	Typist, Dean of Women's Office,	1959
HILL, A. A.	Electrical Foreman, Buildings and Grounds,	1943
HINES, MALISSA C.	Head Resident of Lane Hall,	1960
HOLLINGSWORTH, MABEL P.	Head Resident of Broun Hall,	1956
HOLLOWAY, HELEN	Stenographer, Business Office,	1960
HOLT, MARY EDNA	Stenographer, Engineering Administration,	1958
HOOD, RICHARD L.	Assistant Janitor Foreman, Buildings and Grounds,	1957
HONG, CHUN SHIK	Assistant in Mechanical Engineering,	
B.S., Carnegie Inst. of Tech.	Auburn Research Foundation,	1959
HORNE, MARY ELEANOR	Senior Clerk, Agronomy and Soils,	1922, 1959
HOUGHTON, SHIRLEY I.	Payroll Clerk, Business Office,	1956, 1959
HOWARD, BETTYE	Secretary, Vocational Rehabilitation Service,	1958
HUBBARD, JEAN M.	Typist, University Bookstore,	1960
HUDSON, FRANK L.	Supervisor, Auburn Union Custodians,	1959
HUGHES, ELAINE	Secretary, Education Interpretation Service,	1960
HUGHES, LUCILLE S.	Stenographer to Training Officer, Agriculture,	1960
HURLEY, LENITA JETER	Typist, Pre-Engineering,	1960
JACKSON, JERRY EVANS	Assistant in Mechanical Engineering,	
B.M.E., Auburn University.	Auburn Research Foundation,	1960
JACKSON, LESLIE W.	Motor Maintenance Sergeant, Army ROTC,	1955
Sergeant First Class, United States Army.		
JAMES, JOHN E.	Herdsman, Animal Science,	1959
B.S., Oklahoma State.		
JENKINS, ELIZABETH E.	Head Resident of Harper Hall,	1954, 1956

JENKINS, KATHRYN D.	Clerk, Alumni Office, 1957
JERNIGAN, HENRIETTA	Stenographer, Small Animal Surgery and Medicine, 1960
JOHNSON, EMMETT F.	Head Counselor, Magnolia Dormitories, 1958, 1960
JOHNSON, KATHLEEN	Typist "A", University Bookstore, 1944, 1959
JOHNSON, PATRICIA ANN JONES	Clerk "A", Registrar's Office, 1960
JOLLY, DORA	Stenographer, Department of Bacteriology, 1959
JOLLY, H. H.	Laboratory Mechanician, Aeronautical Engineering, 1957
JONES, ANN DOYLE	Secretary, Nonacademic Personnel, 1959
JONES, ANN P.	Assistant Dietitian, War Eagle Cafeteria, 1959, 1960
JONES, ANNIE MERLE, R.N.	Nurse, Infirmary, 1951, 1955
*JONES, EMMA JEAN	Secretary, Office of the Dean, Education, 1958, 1960 (Resigned Effective August 15, 1960.)
JONES, JEWEL	Secretary, Zoology-Entomology, 1941, 1943
JONES, JO ANN J.	Clerk "A", President's Office, 1957, 1960
JONES, LESLIE JACKSON	Farm Foreman, Agronomy and Soils, 1959
JONES, SUE S.	Senior Clerk, Infirmary, 1958, 1959
JONES, W. G.	Assistant Plant Manager, Dairy Science, 1936, 1946
JONES, WILLIAM L.	Supervisor, Photographic and Duplicating Service, 1948
JUMPER, GLENDA	Sales Clerk, University Bookstore, 1959
KELLEY, MARTHA ANN	Typist, Agricultural Engineering, 1960
KENNEDY, MARY JO	Dietitian, Plainsman Dining Hall, 1956, 1959 B.S., Auburn University.
KING, ALICE B.	Senior Secretary, Buildings and Grounds, 1948
KING, GAYE	Head Resident of Glenn Hall, 1953
KING, LESTER C.	Photographer, Photographic and Duplicating Service, 1949
KING, LINDA	Typist, Engineering Administration, 1960
KIRKWOOD, ALICE P.	Chief Payroll Clerk, Business Office, 1951, 1959
KITT, SALLY ANN	Stenographer, Engineering Extension, 1959, 1960
KNOWLES, NANCY	Secretary, Music, 1957 B.S., Auburn University.
LAMBERT, JOANNE	Typist, Large Animal Surgery and Medicine, 1960
LANE, H. M.	Farm Foreman, Horticulture, 1921
LANEY, ANNA	Payroll Clerk, Business Office, 1960
LANGLEY, EUNICE	Secretary, Horticulture, 1934
LANTZ, GLENDA	Assistant Dietitian, Women's Dining Hall, 1960 B.S., Northwestern State College, La.
LAPP, ESTHER	Pianist, Women's Physical Education, 1957
LARSEN, MARYNELLE H.	Senior Secretary, Auburn Research Foundation, 1951, 1959
LEFFARD, PATRICIA B.	Typist "A", Small Animal Surgery and Medicine, 1958, 1959
LESTER, LORAYNE	Secretary to Director of Libraries, 1958
LEWIS, HOMER N.	Livestock Specialist, Vocational Agriculture, 1950, 1959 B.S., M.S., Auburn University.
LEWIS, LAVORIS L.	Clerk, Catalog Department, Library, 1960
LOGAN, MARY	Head Resident of Owen Hall, 1957
LOWERY, DELANE S.	Typist, Electrical Engineering, 1960
LUCAS, MARGUERITE	Typist, Educational Television, 1960
LYON, JERRY	Secretary, Graduate Placement, 1960
MABEE, JUANITA	Secretary, Psychology, 1960
MADDOX, BOBBIE JACK	Art & Staging Supervisor, Educational Television, 1960
MALONEY, ALICE PRATHER	Typist "A", Architecture Administration, 1960 B.A., Auburn University.
MARAMAN, CHARLOTTE	Secretary, Physics Department, 1960
*MARSH, HARRIET ANN	Psychometrist, Student Guidance Service, 1960



MARSH, JOYCE	Typist, Anatomy and Histology, 1960
*MARTIN, MARIAN PATRICIA (Resigned Effective August 31, 1960.)	Stenographer, Secondary Education, 1960
MASON, LELA VIRGINIA	Secretary, Dean of Women's Office, 1956
MATHISON, M. C.	Farm Foreman, Dairy Science, 1942, 1957
MCARTHUR, CHARLES R.	Graduate Counselor, Magnolia Dormitories, 1960
MCATEE, THELMA JO B.S., Kentucky.	Assistant Dietitian, Women's Dining Hall, 1959
MCCONNELL, FRANCES	Lab. Technician "A", Pathology and Parasitology, 1958, 1959
MCDONALD, ORPHA SUE B.S., Alabama College.	Dietitian, Magnolia Dining Hall, 1960
McGEE, SANDRA	Stenographer, Office of the Dean, Education, 1959
MCINTOSH, MELISSA	Typist, Business Office, 1960
McKINLEY, MARY MILLER	Head Cashier, Business Office, 1938, 1959
McMILLAN, LOLA C.	Clerk "A", Agricultural Library, 1953, 1959
MEADOWS, LAURA BAXTER	Clerk, Registrar's Office, 1944, 1960
MEAGHER, FRANCES	Typist, School of Chemistry, 1953, 1959
MELTON, GALE	Secretary, Food Service Department, 1960
MELZER, DOROTHY G. B.S., Huntingdon; A.M., Ph.B., Chicago. (Resigned Effective August 8, 1960.)	Writer, Education Interpretation Service, 1960
MILLER, A. A. A.B., Birmingham-Southern; M.S., Auburn University.	Housing Manager, 1947, 1950
MILLER, ROSE MARIE	Secretary, Home Economics, 1957
MILLER, WANDA	Stenographer, Student Affairs, 1960
MINTON, FREIDA	Secretary, Textile Technology, 1960
MITCHAM, MARGARET B.S., Auburn University.	Technician, Bacteriology, 1959
MIZELL, FRANCES LENOIR	Clerk Stenographer II, Vocational Agriculture, 1947, 1950
MOONEY, GLENDA A.B., Judson College.	News Writer, News Bureau, 1959
MOORE, ALICE W.	Machines Supervisor, Alumni Office, 1951, 1957
MOORE, EVELYN	Head Resident of Little Hall, 1956, 1957
MORTON, SALLIE	Stenographer, Student Guidance, 1960
MUIR, EMILY	Head Resident of Gatchell Hall, 1957, 1960
MULLINS, HAZEL M.	Typist "A", Buildings and Grounds, 1957
MULLINS, MARION DEWITT B.S., Auburn University.	Assistant to Dean, School of Chemistry, 1952, 1959
NELSON, CARLETON EUGENE	Stock Clerk, School of Chemistry, 1958, 1959
*NEWMAN, BARBARA (Resigned Effective August 27, 1960.)	Stenographer, Secondary Education, 1960
NEWSOME, JOSEPHINE V.	Cashier, Women's Dormitories, 1960
NIXON, JOAN	Stenographer, Economics and Business Administration, 1959, 1960
NORMAN, THOMAS J. B.S., Auburn University. (Resigned Effective August 18, 1960.)	Senior Clerk, Registrar's Office, 1959, 1960
NORTON, PAUL M. A.B., Birmingham-Southern; M.S., Auburn University.	Coordinator, Veterans Affairs, 1945
*OAKS, RUBY A.	Head Resident of Gray House, 1960
OGLE, CAROLE M.	Secretary, Mathematics Department, 1960
OLDHAM, PEGGY B.S., Memphis State University.	Senior Clerk, Nonacademic Personnel, 1959, 1960
ORR, NANCY	Clerk "A", Auburn Union, 1960
OSBORNE, GLEN DYNE	Secretary, Student Guidance Service, 1957, 1959
OWEN, MATTIE K.	Cashier, Women's Dormitories, 1952
PACKARD, JO ANN	Secretary, History and Government, 1959, 1960
PALMER, BILLIE JEAN	Tabulating Machine Operator, Registrar's Office, 1960

PATTERSON, RAYMOND A.	Shop Mechanician, Industrial Laboratories, 1946
PEARSON, ANNE P.	Chief Accountant, Business Office, 1928, 1959
PEARSON, BURTON	Vocational Agriculture Editor, 1959
B.S., Auburn University.	
PERKINS, EDWARD	Engineering Aide, Educational Television, 1960
PERKINS, EVELYN MYERS	Typist, Registrar's Office, 1960
PETTY, GLORIA	Psychometrist, Student Guidance Service, 1958
B.A., Howard.	
PETTY, JEAN GREENHILL	Secretary, School of Education, 1955
PHILLIPS, JUDY	Stenographer, News Bureau, 1960
PIERCE, JUDGE G.	Maintenance-Custodian, Forest Hills Apartments, 1946, 1959
PITTS, JAMES RADNEY	Assistant in Electrical Engineering,
B.E.E., Auburn University.	Auburn Research Foundation, 1959
PLANT, BERNICE V.	Clerk "A", Photo. and Duplicating Service, 1958, 1959
POLLARD, WILLIE E.	Senior Clerk, University Bookstore, 1960
POORE, WILLIAM D.	Director, Nonacademic Personnel, 1957
B.S., M.A., Illinois.	
POPE, LUTHER M.	Stockroom Clerk, Buildings and Grounds, 1953
POSEY, ELIZABETH WEBSTER	Clerk "A", Registrar's Office, 1960
POSTMA, JOHN ROBERT	Graduate Counselor, Magnolia Dormitories, 1960
POWELL, CINDERELLA M.	Supervisor of Women's Dormitories, 1947
POWELL, WILLIAM FRANK	Purchasing Agent, Business Office, 1950
B.S., Auburn University.	
PRICE, LOUISE	Secretary, Agricultural Economics, 1940, 1943
PRICKETT, SHIRLEY B.	Secretary, Department of Art, 1959
B.A., Birmingham-Southern.	
PRYOR, OLLIE CLYDE	Processing Mechanician, Auburn Research Foundation, 1959
PUGH, GERALDINE K.	Secretary, Vocational Rehabilitation, 1958
PUGH, WILBUR H.	Property Custodian, Small Animal Surgery &
	Medicine, 1955, 1958
PUTNAM, LILA BELLE	Laboratory Technician, Textile Technology, 1959, 1960
QUILLIN, JAMES R.	Manager, Chemistry Supply Room, 1948, 1959
QUINN, JOSEPH C.	Artist, Education Interpretation Service, 1951
B.S., Auburn University.	
RAGAN, THAXTON DREW	Union Program Director, Auburn Union, 1960
B.S., Auburn University.	
RAINEY, BURROUGH LLOYD	Chief Clerk, Buildings and Grounds, 1956
RAINEY, RUTH S.	Secretary, Forestry, 1958
*RASCO, MILDRED C.	Head Resident of Freshman House, 1960
RAWLS, BYRON F.	Executive Secretary, F.F.A., 1959
RAY, LUTHER G., JR.	Assistant Maintenance-Custodian, Graves
	Centre Apartments, 1960
REAVES, JOHN DANIEL	Superintendent of Union Activities, Auburn Union, 1960
REGISTER, WILLIAM H.	Processing Mechanician, Auburn Research Foundation, 1959
REINHARD, HERB F.	Activities Advisor and Foreign Student Advisor,
B.S., M.S., Florida State University.	Student Affairs, 1960
REW, CHARLES F.	Senior Clerk, Business Office, 1948, 1959
RICHESON, SARAH	Typist, Mechanical Engineering, 1959
ROBERSON, KATHERINE G.	Secretary, Pharmacy, 1960
ROBERTS, J. HOYT	Counselor, Vocational Rehabilitation, 1959
B.S., M.S., Jacksonville State College.	
ROBERTS, NANCY W.	Stenographer, Dairy Science, 1960
*ROBERTSON, KATIE JO	Clerk, Circulation Department, Library, 1960
(Resigned Effective September 6, 1960.)	
ROBINSON, MARIETTA F.	Head Resident of Mell Hall, 1946, 1956
B.A., Carson-Newman; M.A., Mercer.	

RODEN, JEREMIAH, JR. B.S., Auburn University.	Editor, ALUMNEWS, 1955, 1957
RODEN, REBECCA H.	Senior Secretary, Graduate School, 1956, 1960
ROGERS, MARTHA TURNAGE	Clerk "A", Auburn School of Aviation, 1960
ROLLO, MARGIE	Stenographer, Assistant Dean of Engineering, 1959
ROOKS, NANCY	Stenographer, Office of the Dean, Education, 1959
ROSSER, RUTH	Secretary, Educational Television, 1960
ROTTON, BETTY JEAN	Stenographer, Secondary Education, 1960
ROY, K. B. B.J., Missouri.	Head, Agricultural Publications, 1943, 1948
RUSH, BARBARA J.	Stenographer, Secondary Education, 1960
RUSH, KATHRYN S. B.S., M.S., Auburn University.	Food Director, Dining Hall Service, 1949, 1951
RUSSELL, MARGARET K.	Secretary, Agricultural Engineering, 1958
SCARBROUGH, JOAN C.	Secretary, Field Services, School of Education, 1958, 1959
SCOTT, NANCY MARSH	Clerk, Registrar's Office, 1960
SEARCY, MARY ROSS	Stenographer, Horticulture, 1960
SELLERS, MARY F., R.N.	Nurse, Infirmary, 1944, 1959
*SENN, MARY CLAIRE	Clerk, Alumni Office, 1957
SENSEMAN, LOIS ANN	Secretary, Elementary Education, 1960
SEWELL, ANNIE MARIE A.B., Huntingdon; M.S., Auburn University.	Head Resident of Teague Hall, 1942
SHERLING, DOROTHY N. B.S., Auburn University.	Senior Clerk, School of Science and Literature, 1951, 1959
SHOULTS, JEAN	Clerk, Catalog Department, Library, 1960
SHRUM, SUE	Senior Secretary, President's Office, 1958, 1960
SIBLEY, ANN M.	Clerk, Serials Department, Library, 1960
SIBLEY, GRIGSBY THOMAS	Laboratory Mechanician, Electrical Engineering, 1943
SIBLEY, KATE MAXWELL	Senior Tabulating Machine Operator, Registrar's Office, 1950, 1959
SIMMONS, BETTY F.	Secretary, Architecture and The Arts, 1956, 1958
SIMMONS, ELDRIDGE C. B.S., M.D., University of Virginia.	Assistant Director of Student Health, 1960
SIMS, GRACE F., R.N.	Nurse, Infirmary, 1944, 1959
SIMONS, KENNETH W. B.A., Millsaps College.	Accountant, Business Office, 1958
SIMS, BENNETT	Store Manager, University Bookstore, 1946
SIMS, VIRGINIA V.	Assistant Cashier, Business Office, 1950
SKINNER, HOWARD ODELL B.S.C., Florida.	Production Manager, Educational Television, 1959, 1960
SMITH, CHARLES EDWARD B.E.E., Auburn University.	Assistant in Electrical Engineering, Auburn Research Foundation, 1959
SMITH, EVELYN BLOW (Resigned Effective October 31, 1960.)	Clerk, Catalog Department, Library, 1960
SMITH, IVERSON T.	Assistant Carpenter Foreman, Buildings and Grounds, 1957
SMITH, JEANNE M. (Resigned Effective August 7, 1960.)	Typist, English Department, 1960
SMITH, MABLE E.	Typist, Naval ROTC, 1960
SMITH, VIRGINIA S.	Cashier, Housing, 1959
SMITH, WILLIAM ROY B.S., Bowling Green State University; M.S., Syracuse University.	Producer-Director, Educational Television, 1960
SMYTH, HENRY A.	Maintenance Mechanic, Buildings and Grounds, 1959, 1960
SMYTH, RUTH JOHNSON	Clerk, Circulation Department, Library, 1960
SNOW, MELVIN L., SR.	Janitor Foreman, Buildings and Grounds, 1951, 1957
SPARROW, SYLVIA S. B.S., Alabama College.	Senior Clerk, Engineering Administration, 1946, 1956

\* Temporary.

SPEAKS, ANN BOGGS	Clerk "A", School of Science and Literature, 1960
SPENCER, EDWARD R., JR.	Graduate Counselor, Magnolia Dormitories, 1960
STANFIELD, JAMES M.	Cameraman, Photographic and Duplicating Service, 1957
STANFORD, JUDITH	Secretary, Pathology and Parasitology, 1960
STARR, ELIZABETH D.	Clerk, Acquisitions Department, Library, 1956
STEPHENS, MARJORIE	Secretary to the Dean, School of Veterinary Medicine, 1944, 1955
STURDIVANT, ANNETTE T.	Secretary, Aeronautical Engineering, 1960
STEVENS, PEGGY L.	Stenographer, Electrical Engineering, 1960
STOVER, ANN	Head Resident of Dowdell Hall and College Chaperone, 1952, 1957
STRONG, PEARL	Secretary, Business Office, 1949, 1959
SUDDATH, BOYCE E.	Senior Clerk, Office of the Dean, School of Education, 1944, 1959
SUGG, TOT	Housemother, Magnolia Hall, 1956
TATUM, GRETA	Laboratory Technician, Auburn Research Foundation, 1960
TARVER, FRANCES	Clinic Clerk, Infirmary, 1954, 1960
TAYLOR, EDWARD B.	Assistant Director of Engineering Extension, 1957, 1960 B.S., Davidson College; B.S.T.M., North Carolina State; M.S., Columbia.
TAYLOR, WILKA B.	Senior Clerk, Buildings and Grounds, 1952
TEACHWORTH, VERNA JACQUELYN	Clerk, Veterinary Medicine Library, 1960
TEAL, MARTHA MERLE	Stenographer, Business Office, 1958, 1959
THOMAS, ANNE	Housemother, Magnolia Hall, 1948, 1953
THOMMEN, MAX W.	Supply Sergeant, Army ROTC, 1959 Staff Sergeant, United States Army.
THOMPSON, JOLENE	Senior Secretary, President's Office, 1960 B.S., Auburn University.
THORNTON, CLAUDE L.	Shop Mechanician, Industrial Laboratories, 1952
THURSTON, MILTON C.	Supervisor, Supply Room and Laundry, Athletic Department, 1946, 1950
TIDMORE, SARA M.	Clerk "A", President's Office, 1942, 1959 B.ofMus., Cox College.
TIPPINS, FRANCES E.	Administrative Assistant, Business Office, 1929, 1959
**TUCKER, DAVID A.	Counselor, Student Guidance Service, 1956 B.A., Hanover College; M.A., Louisville.
TUCKER, INEZ J.	Dietitian, War Eagle Cafeteria, 1952, 1955 B.S., Auburn University.
TURNER, MARY G.	Clerk, Circulation Department, Library, 1960
TURNIPSEED, LAMARGARET	Head of Women's Housing, 1947, 1952 B.A., Huntingdon; M.S., Auburn University.
TYSON, SEABORN B.	Chief Clerk, Army ROTC, 1956 Sergeant First Class, United States Army.
VAN GILDER, SARAH	Assistant Dietitian, War Eagle Cafeteria, 1960 B.S., Auburn University.
VENABLE, JACK	Producer-Director, Educational Television, 1960
WADE, JAMES DALLAS	Assistant to Dean, School of Engineering, 1941, 1946 B.S., Auburn University.
WALDROP, MARIE L.	Secretary, Buildings and Grounds, 1960
WALDROP, RUTH C.	Assistant Purchasing Agent, Business Office, 1928, 1937
WALKER, MARGIE	Stenographer, English Department, 1960
WALLER, MARIANNE	Secretary, Industrial Laboratories, 1958
WALTON, JOHN H.	Carpenter Foreman, Buildings and Grounds, 1947
WARE, ROBERT E.	Chief Engineer, Educational Television, 1959 B.S., Auburn University.
WARREN, AILEEN	Clerk Stenographer I, Vocational Agriculture, 1959
WAITES, JEANNETTE	Clerk, Catalog Department, Library, 1960 (Resigned Effective September 30, 1960.)

\*\* On leave.

**WEGENER, EDWARD P.	Director, Educational Television, 1954
WEIDENBACH, W. H.	Assistant to Dean, School of Agriculture and to B.S., Auburn University. Director, Agricultural Experiment Station, 1925, 1942
WEILMUNSTER, PAULINE S.	Secretary, Pre-Engineering, 1956, 1958
WHATLEY, MILDRED C.	Senior Payroll Clerk, Business Office, 1940, 1959
WHEELER, MAX	Track Maintenance, Army ROTC, 1958
	Sergeant First Class, United States Army.
WHITE, ANNIE KATHERINE	Housemother, Auburn Hall, 1955
WHITE, JOSEPH A.	Assistant Supervisor of Vocational Agriculture B.S., M.S., Auburn University. and Itinerant Teacher Trainer, 1960
WHITMAN, J. C.	Assistant Campus Foreman, Buildings and Grounds, 1952, 1959
WHITMAN, J. M.	Plumbing and Heating Foreman, Buildings and Grounds, 1940, 1942
WHITMAN, MARY	Clerk-Accounting, Business Office, 1960
WILLIAMS, CLARENCE THOMAS	Clerk, College Security Office, 1957
WILLIAMS, JEWEL C.	Typist, Buildings and Grounds, 1959
WILLIAMS, L. B.	Assistant Director of Publicity, News Bureau, 1958
	B.S., Troy State Teachers College; M.S., George Peabody College for Teachers.
*WILLIAMS, TOBY	Psychometrist, Student Guidance Service, 1959
WILSON, JACK OLIN, JR.	Campus Foreman, Buildings and Grounds, 1947, 1953
WILSON, VERA M.	Head Resident of Alumni Hall, 1960
WINGARD, BETTY A.	Secretary, Men's Physical Education, 1957
WINGATE, HENRY T.	Assistant to the Dean, School of Veterinary B.S., Auburn University. Medicine, 1927, 1959
WOMACH, SANDRA	Secretary, Magnolia Dormitories, 1960
WOOD, JAMES M., SR.	Laboratory Mechanician, Aeronautical Engineering, 1958
WOODS, MARGARET, R.N.	Nurse, Infirmary, 1953, 1959
WRIGHT, CARY DUNCAN	Property Custodian, Large Animal Surgery and Medicine, 1948, 1956
WRIGHT, GRACE M.	Typist "A", Dairy Science, 1945, 1959
WRIGHT, LUNEAR D.	Superintendent of Nurses, Infirmary, 1941, 1950
	Registered Nurse.
YOUNG, JOE FRANK	Laboratory Mechanician, Mechanical Engineering, 1960
ZARING, MARGARET K.	Head Resident of Keller Hall, 1958
	B.S., Northwestern.
ZIEGLER, EVELYN A.	Senior Clerk, School of Science and Literature, 1956, 1959

### Commencement Speakers

- RICHARD GILMAN FOLSOM, B.S., M.S., Ph.D., President, Rensselaer Polytechnic Institute, Troy, New York. March 15, 1960.
- FRANK GRAVES DICKEY, A.B., M.A., Ed.D., President, University of Kentucky, Lexington, Kentucky. June 3, 1960.
- JOHN H. BUCHANAN, B.A., Th.M., D.D., Chaplain, Baptist Hospitals, Birmingham, Alabama. August 26, 1960.
- HARRY M. PHILPOTT, A.B., Ph.D., D.D., Vice President, University of Florida, Gainesville, Florida. December 15, 1960.

\* Temporary

\*\* On leave.

# AGRICULTURAL EXPERIMENT STATION STAFF<sup>1</sup>

RALPH BROWN DRAUGHON, LL.D., *President*  
 ROBERT C. ANDERSON, Ph.D., *Executive Vice-President*  
 H. F. VALLERY, Ed.D., *Assistant to the President*  
 E. V. Smith, Ph.D., *Director*  
 Coyt Wilson, Ph.D., *Associate Director*  
 C. F. Simmons, Ph.D., *Assistant Director*  
 W. H. Weidenbach, B.S., *Assistant to Director*

## Agricultural Economics

Ben T. Lanham, Jr., M.S.	Head, Agricultural Economics, 1939, 1956
J. H. Blackstone, M.S.	Agricultural Economist, 1939, 1954
M. J. Danner, M.S.	Agricultural Economist, 1943, 1957
T. H. Ellis, Ph.D.	Agricultural Economist (Coop. USDA), 1958
Morris White, Ph.D.	Agricultural Economist, 1950, 1960
J. H. Yeager, Ph.D.	Agricultural Economist, 1946, 1957
E. D. Chastain, Jr., Ph.D.	Assoc. Agricultural Economist, 1956
E. E. Kern, Jr., M.S.	Assoc. Agricultural Economist, 1955
A. C. Hudson, M.S.	Asst. Agricultural Economist, 1958
Earl J. Partenheimer, Ph.D.	Asst. Agricultural Economist, 1958
Lowell E. Wilson, Ph.D.	Asst. Agricultural Economist, 1960
*Ruth A. Hammett, M.S.	Asst. in Agricultural Economics, 1955
*John M. Huie, B.S.	Asst. in Rural Sociology, 1960
*James R. Hurst, B.S.	Asst. in Agricultural Economics, 1959
*Daniel A. Linton, Jr., B.S.	Asst. in Agricultural Economics, 1959
*Benny R. McManus, B.S.	Asst. in Agricultural Economics, 1960
*Boyd B. Rose, B.S.	Asst. in Agricultural Economics, 1958

## Agricultural Engineering

F. A. Kummer, M.S.	Head, Agricultural Engineering, 1935, 1948
A. W. Cooper, Ph.D.	Director, National Tillage Machinery Laboratory (Coop. USDA), 1939, 1958
T. E. Corley, M.S.	Assoc. Agricultural Engineer, 1946, 1953
Walter Grub, M.S.	Assoc. Agricultural Engineer, 1954
E. S. Renoll, M.S.	Assoc. Agricultural Engineer, 1949, 1958
C. A. Rollo, M.S.	Assoc. Agricultural Engineer, 1947, 1956
C. M. Stokes, M.S.	Assoc. Agricultural Engineer, 1937, 1947
W. R. Gill, Ph.D.	Soil Scientist (Coop. USDA), 1955
W. F. McCreery, M.S., A.E.	Agricultural Engineer (Coop. USDA), 1950, 1952
C. A. Reaves, M.S.	Agricultural Engineer (Coop. USDA), 1951
I. F. Reed, M.S., A.E.	Agricultural Engineer (Coop. USDA), 1933, 1944
G. E. Vanden Berg, Ph.D.	Agricultural Engineer (Coop. USDA), 1958
T. N. Eagar, B.S.	Asst. in Agricultural Engineering, 1959

## Agricultural Library

C. H. Cantrell, M.A., A.B.L.S., Ph.D.	Director of Libraries,* 1944
Farley Lee, M.A., A.B.L.S.	Agricultural Librarian,* 1928, 1949

## Agronomy and Soils

Howard T. Rogers, Ph.D.	Head, Agronomy and Soils, 1942, 1951
J. T. Cope, Jr., Ph.D.	Agronomist, 1950, 1959
E. D. Donnelly, Ph.D.	Plant Breeder, 1951, 1959
L. E. Ensminger, Ph.D.	Soil Chemist, 1944, 1953
F. S. McCain, Ph.D.	Plant Breeder, 1946, 1959
Earl B. Minton, M.S.	Plant Physiologist (Coop. USDA), 1950, 1956
R. D. Rouse, Ph.D.	Soil Chemist, 1949, 1956
C. E. Scarsbrook, Ph.D.	Soil Chemist, 1953, 1959
A. L. Smith, Ph.D.	Pathologist (Coop. USDA), 1946
D. G. Sturkie, Ph.D.	Agronomist, 1925, 1942
J. I. Wear, Ph.D.	Soil Chemist, 1939, 1959

\* Temporary.

<sup>1</sup> As of November 1, 1960.

<sup>2</sup> Joint employees with Teaching Division of Auburn University.



Fred Adams, Ph.D.	Assoc. Soil Chemist, 1955
E. M. Evans, M.S.	Assoc. Agronomist, 1949, 1953
A. E. Hiltbold, Ph.D.	Assoc. Soil Microbiologist, 1955
Carl S. Hoveland, Ph.D.	Assoc. Agronomist, 1959
Wiley C. Johnson, Jr., Ph.D.	Assoc. Plant Breeder, 1957
Aubrey C. Mixon, M.S.	Assoc. Agronomist (Coop. USDA), 1957
R. M. Patterson, Ph.D.	Assoc. Agronomist, 1949, 1956
Joe B. Dixon, Ph.D.	Asst. Soil Mineralogist, 1959
C. E. Evans, M.S.	Asst. Agronomist, 1955, 1957
C. C. King, Jr., M.S.	Asst. Agronomist, 1952, 1954
V. S. Searcy, M.S.	Asst. Agronomist, 1948, 1950
G. T. Sharman, Jr., B.S.	Asst. Agronomist (Thorsby), 1952, 1954
F. E. Bertram, B.S.	Field Superintendent (Prattville), 1935, 1948
Fred T. Glaze, B.S.	Field Superintendent (Alexandria), 1954
J. W. Langford, B.S.	Superintendent, Plant Breeding Unit (Tallasee), 1954
J. W. Richardson, B.S.	Field Superintendent (Brewton), 1937, 1948
O. N. Andrews, Jr., B.S.	Asst. in Agronomy, 1960
Robert A. Burdett, Jr., B.S.	Asst. in Agronomy, 1958
Louie J. Chapman, M.S.	Asst. in Agronomy, 1954
Raymond L. Shepherd, M.S.	Asst. in Agronomy, 1960
James Rudolf Williams, B.S.	Asst. in Agronomy, 1960

### Animal Disease Research

J. E. Greene, D.V.M., M.S.	Head, Animal Disease Research, <sup>a</sup> 1937, 1958
Carl Clark, Ph.D.	Assoc. Head, Animal Disease Research, <sup>a</sup> 1953, 1959
William G. Dacres, Ph.D.	Bacteriologist, 1956
George K. Kiesel, D.V.M.	Animal Pathologist, 1952, 1955
Charles S. Roberts, D.V.M., M.S.	Animal Pathologist, <sup>a</sup> 1947, 1954
Herman D. Alexander, Ph.D.	Asst. Animal Pathologist, 1950, 1959
Richard M. Thomas, D.V.M., M.S.	Asst. Animal Pathologist, 1960

### Animal Science

W. M. Warren, Ph.D.	Head, Animal Science, 1955, 1957
W. B. Anthony, Ph.D.	Animal Nutritionist, 1953, 1955
P. M. Newberne, D.V.M., Ph.D.	Animal Pathologist, 1958
W. D. Salmon, D.Sc.	Animal Nutritionist, 1922, 1957
Troy B. Patterson, Ph.D.	Assoc. Animal Breeder, 1957
C. D. Squiers, Ph.D.	Assoc. Animal Breeder, 1950
H. F. Tucker, Ph.D.	Assoc. Animal Husbandman, 1949, 1958
E. L. Wiggins, Ph.D.	Assoc. Animal Breeder, 1956
P. T. Farish, Ph.D.	Asst. Animal Nutritionist, 1953, 1958
Ralph R. Harris, Ph.D.	Asst. Animal Husbandman, 1960
G. B. Meadows, M.S.	Asst. Animal Husbandman, 1951
James F. Price, Ph.D.	Asst. Animal Husbandman, 1960
W. B. Webster, B.S.	Asst. in Animal Science, 1958, 1960

### Botany and Plant Pathology

J. A. Lyle, Ph.D.	Head, Botany and Plant Pathology, 1947, 1954
E. J. Cairns, Ph.D.	Nematologist, 1954
D. E. Davis, Ph.D.	Botanist, 1947, 1955
N. A. Minton, Ph.D.	Nematologist (Coop. USDA), 1951, 1955
E. M. Clark, Ph.D.	Assoc. Botanist, 1956, 1960
E. A. Curl, Ph.D.	Assoc. Plant Pathologist, 1954, 1957
U. L. Diener, Ph.D.	Assoc. Plant Pathologist, 1952, 1957
Norman D. Davis, Ph.D.	Asst. Botanist, 1958, 1959
Robert T. Gudauskas, Ph.D.	Asst. Plant Pathologist, 1960
Kenneth E. Landers, B.S.	Asst. in Botany, 1960
Donald R. Roberts, M.S.	Asst. in Botany, 1960

### Dairy Science

K. M. Autrey, Ph.D.	Head, Dairy Science, 1947
R. Y. Cannon, Ph.D.	Dairy Technologist, 1948, 1960

<sup>a</sup> Joint employees with School of Veterinary Medicine.

<sup>4</sup> Joint employee with State Department of Agriculture and Industries.

G. E. Hawkins, Jr., Ph.D.	Dairy Husbandman, 1952, 1959
G. H. Rollins, M.S.	Assoc. Dairy Husbandman, 1948, 1955
Gary E. Paar, M.S.	Asst. in Dairy Science, 1960

**Forestry**

Wilbur B. DeVall, M.S.	Head, Forestry, 1946, 1951
G. I. Garin, Ph.D.	Forester, 1948, 1952
E. J. Hodgkins, Ph.D.	Forester, 1952, 1957
D. B. Richards, Ph.D.	Forester, 1951
*J. F. Goggans, M.F.	Assoc. Forester, 1947, 1952
E. W. Johnson, Ph.D.	Assoc. Forester, 1950, 1957
H. C. Posey, M.S.F.	Assoc. Forester, 1950, 1959
S. D. Whipple, M.F.	Assoc. Forester (Rt. 2, Fayette), 1958
Harold O. Beals, Ph.D.	Asst. Forester, 1960
Mason C. Carter, D.F.	Asst. Forester, 1960
K. W. Livingston, M.F.	Asst. Forester, 1948, 1949
E. S. Lyle, Jr., M.F.	Asst. Forester, 1957
D. H. J. Steenson, M.F.	Asst. Forester, 1960
*Reid L. Folsom, B.S.	Asst. in Forestry, 1959
Forrest E. Goodrick, B.S.F.	Asst. in Forestry, 1956

**Home Economics**

Marion W. Spidle, M.A.	Head, Home Economics, Research, <sup>5</sup> 1938, 1955
Kathryn Philson, Ph.D.	Home Economist, 1953, 1957
Nell S. Glasscock, Ph.D.	Assoc. Home Economist, <sup>6</sup> 1958
Mildred S. Van de Mark, M.A.	Assoc. Home Economist, <sup>6</sup> 1938, 1955
Mary E. Prather, M.S.	Asst. Home Economist, <sup>6</sup> 1952, 1960

**Horticulture**

L. M. Ware, M.S.	Head, Horticulture, 1923, 1931
W. H. Greenleaf, Ph.D.	Vegetable Breeder, 1947
Harry J. Amling, Ph.D.	Assoc. Horticulturist, 1958
Tokuji Furuta, Ph.D.	Assoc. Ornamental Horticulturist, 1951
Hubert Harris, M.S.	Assoc. Horticulturist, 1936, 1948
Sam T. Jones, Ph.D.	Assoc. Horticulturist, 1950, 1954
Henry P. Orr, M.S.	Assoc. Ornamental Horticulturist, 1947, 1949
W. A. Johnson, M.S.	Asst. Horticulturist, 1937, 1950
Joseph D. Norton, M.S.	Asst. Horticulturist, 1960
Jack L. Turner, M.S.	Asst. Horticulturist, 1955, 1957
James McCoy Barber, B.S.	Asst. in Horticulture, 1956
W. C. Martin, Jr., B.S.	Greenhouse Manager, 1951, 1958
Frederick B. Perry, Jr., B.S.	Asst. in Horticulture, 1957

**Poultry Science**

Claude H. Moore, Ph.D.	Head, Poultry Science, 1956, 1959
G. J. Cottier, M.A., D.V.M.	Poultry Husbandman, 1930, 1949
S. A. Edgar, Ph.D.	Poultry Pathologist, 1947, 1950
Dale F. King, M.S.	Poultry Husbandman, 1930, 1959
J. G. Goodman, M.S.	Assoc. Poultry Husbandman, 1939, 1946
L. W. Johnson, Ph.D.	Assoc. Poultry Husbandman, 1948, 1955
James R. Howes, M.S.C.	Asst. Poultry Husbandman, 1960
E. C. Mora, M.S.	Asst. Poultry Pathologist, 1958
D. S. Bond, M.S.	Asst. in Poultry Science, 1958
*Robert N. Brewer, M.S.	Asst. in Poultry Science, 1960

**Publications**

K. B. Roy, B.J.	Head, Publications, 1943, 1948
L. O. Brackeen, B.S.	Director of Publicity, <sup>6</sup> 1934, 1948
E. L. McGraw, M.S.	Assoc. Agricultural Editor, 1941, 1957
R. E. Stevenson, B.S.	Assoc. Agricultural Editor, 1955, 1960

\* Temporary appointment.

\*\* On leave.

<sup>5</sup> Joint employee with School of Home Economics.<sup>6</sup> Joint employee with Extension Service and Teaching Division, Auburn University.

**Research Data Analysis**

B. F. Alvord, M.S.	Statistician, 1929, 1957
A. E. Drake, Ph.D.	Assoc. Biometrician, 1959

**Zoology-Entomology**

F. S. Arant, Ph.D.	Head, Zoology-Entomology, 1926, 1949
M. F. Baker, Ph.D.	Leader, Wildlife Research Unit (Coop. USDI), 1958
J. S. Dendy, Ph.D.	Zoologist, 1947, 1957
W. G. Eden, Ph.D.	Entomologist, 1948, 1953
H. S. Swingle, Sc.D.	Fish Culturist, 1929, 1939
B. Wayne Arthur, Ph.D.	Assoc. Entomologist, 1951, 1959
G. H. Blake, Jr., Ph.D.	Assoc. Entomologist, 1947, 1956
Kirby Lee Hays, Ph.D.	Assoc. Entomologist, 1957, 1960
Lacy L. Hyche, M.S.	Assoc. Entomologist, 1952, 1960
J. M. Lawrence, Ph.D.	Assoc. Fish Culturist, 1941, 1956
E. E. Prather, M.S.	Assoc. Fish Culturist, 1941, 1950
James W. Rawson, Ph.D.	Assoc. Entomologist, 1957, 1960
Ray Allison, M.S.	Asst. Zoologist, 1950, 1958
E. Wayne Shell, Ph.D.	Asst. Fish Culturist, 1952, 1959
Dan W. Speake, M.S.	Asst. Leader, Wildlife Research Unit (Coop. USDI), 1955
Max H. Bass, M.S.	Asst. in Entomology, 1957, 1960

**SUBSTATIONS****Black Belt—Marion Junction, Dallas County**

L. A. Smith, B.S.	Superintendent, 1951, 1957
Harold W. Grimes, Jr., B.S.	Asst. Superintendent, 1955, 1957

**Chilton Area Horticulture—Clanton, Chilton County**

C. C. Carlton, B.S.	Superintendent, 1948
Kenneth C. Short, B.S.	Asst. Superintendent, 1960

**Gulf Coast—Fairhope, Baldwin County**

Harold F. Yates, B.S.	Superintendent, 1931, 1959
J. E. Barrett, Jr., B.S.	Asst. Superintendent, 1948

**Lower Coastal Plain—Camden, Wilcox County**

V. L. Brown, B.S.	Superintendent, 1949
H. D. Long, B.S.	Asst. Superintendent, 1960
W. J. Watson, B.S.	Asst. Superintendent, 1958

**North Alabama Horticulture—Cullman, Cullman County**

T. S. Morrow, B.S.	Superintendent, 1948
M. H. Hollingsworth, B.S.	Asst. Superintendent, 1958

**Piedmont—Camp Hill, Tallapoosa County**

E. L. Mayton, M.S.	Superintendent, 1929, 1945
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**Sand Mountain—Crossville, DeKalb County**

S. E. Gissendanner, B.S.	Superintendent, 1941, 1946
Howard C. Lester, B.S.	Asst. Superintendent, 1958

**Tennessee Valley—Belle Mina, Limestone County**

J. K. Boseck, B.S.	Superintendent, 1937, 1954
**H. W. Ivey, II, B.S.	Asst. Superintendent, 1960

**Upper Coastal Plain—Winfield, Fayette County**

W. W. Cotney, B.S.	Superintendent, 1944
Robert A. Moore, Jr., B.S.	Asst. Superintendent, 1959

**Wiregrass—Headland, Henry County**

C. A. Brogden, B.S.	Superintendent, 1937, 1950
Max C. Sconyers, B.S.	Asst. Superintendent, 1950
J. G. Starling, B.S.	Asst. Superintendent, 1948

**Ornamental Horticulture Field Station—Spring Hill, Mobile County**

R. L. Self, Ph.D.	Plant Pathologist, 1942, 1952
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\*\* On leave.

## GRADUATE ASSISTANTS

Ullman E. Brady, Jr., B.S.	Zoology-Entomology, 1959
James R. Buttram, M.S.	Zoology-Entomology, 1959
Oyette L. Chambliss, B.S.	Horticulture, 1960
Lillian Foscue, B.S., B.J.	Agricultural Economics, 1960
Wilhelmus J. G. Gardenier, B.S.	Agricultural Engineering, 1959
James Allen Gibbs, M.S.	Agronomy and Soils, 1960
Albert S. Johnson, III, B.S.F.	Zoology-Entomology, 1959
Joe L. Koon, B.S.	Agricultural Engineering, 1960
James D. Land, M.S.	Zoology-Entomology, 1959
Joseph V. Maddox, B.S.	Zoology-Entomology, 1959
Talmdage R. Meadows, B.S.	Dairy Science, 1960
William Wadd Miller, III, M.S.	Animal Science, 1958
Peter F. Olsen, M.S.	Zoology-Entomology, 1960
Loyd T. Patterson, B.S.	Poultry Science, 1959
Hans Riekerk, B.S.	Forestry, 1959
James H. Taylor, B.S.	Agricultural Engineering, 1959
James A. Timmerman, Jr., M.S.	Zoology-Entomology, 1959
Philip M. Wilkinson, B.S.	Zoology-Entomology, 1960
Gene D. Wills, B.S.	Botany and Plant Pathology, 1959

## OTHER STAFF

W. P. Adkins	Shop Foreman, Agricultural Engineering, 1947
Barbara B. Agee	Secretary, Administration, 1958
Mary Frances Amster	Laboratory Technician, Forestry, 1960
Jeanne Thomas Anderson	Statistical Clerk, Research Data Analysis, 1960
Beverly Ann Atcheson	Typist, Agricultural Economics, 1959
Barbara Annette Baggett	Laboratory Technician, Animal Science, 1960
Kay R. Beaty	Lab. Technician "A", Botany and Plant Pathology, 1958, 1959
A. L. Black	Ponds Foreman, Zoology-Entomology, 1948, 1955
Carolyn Jane Bolling	Typist "A", Botany and Plant Pathology, 1960
Carolyn Nichols Brooks	Laboratory Technician, Zoology-Entomology, 1960
Betty Jo Brown	Laboratory Technician, Animal Disease Research, 1960
Sue Ann Browning	Typist "A", Administration, 1960
Donna Bryant	Typist, Agronomy and Soils, 1959
Lahoma Woods Burdette	Clerk, Research Data Analysis, 1960
Pauline Chapman, B.S.	Laboratory Technician, Zoology-Entomology, 1959
Patricia Moss Childree	Stenographer, Animal Science, 1960
Carole Luise Clements	Laboratory Technician, Dairy Science, 1960
Dovard R. Collum	Technician, Agronomy and Soils, 1957
Tye G. Collum	Laboratory Assistant, Horticulture, 1945, 1957
Karen S. Conlon	Typist "A", Animal Science, 1960
Elizabeth L. Cooper, B.S.	Lab. Technician, Animal Disease Research, 1960
Patricia G. Crenshaw, B.S.	Statistical Clerk, Agronomy and Soils, 1960
John P. Cunningham, B.S.	Farm Foreman, Dairy Science, 1958, 1959
Irma P. Davison	Stenographer, Zoology-Entomology, 1959
Mary Ruth Doler, B.S.	Laboratory Technician "A", Home Economics, 1959
Janice J. Ellis	Laboratory Technician "A", Agronomy and Soils, 1957, 1959
Mattie Norman Ellis	Senior Secretary, Administration, 1935, 1959
Martha T. Fears	Laboratory Technician "A", Animal Science, 1960
S. E. Fincher, B.S.	Farm Foreman, Poultry Science, 1959
Doris E. Gardner	Secretary, Poultry Science, 1949
Alice Jana Gore, B.S.	Laboratory Technician "A", Animal Science, 1960
Katie Elizabeth Goulsby, B.S.	Laboratory Technician "A", Animal Science, 1960
Joan Cole Harrill, B.S.	Laboratory Technician "A", Animal Science, 1960
William H. Hearn, B.S.	Statistical Asst., Research Data Analysis, 1950, 1959
Claude W. Holbrook	Production Manager, (Foundation Seed Stocks Farm at Thorsby) Agronomy and Soils, 1960
Eleanor Horne	Senior Clerk, Agronomy and Soils, 1922, 1959
Billie S. Hudmon	Statistical Clerk, Horticulture, 1957, 1959
Robert C. Hunter, B.S.	Laboratory Technician "A", Zoology-Entomology, 1960
Sara H. Jenkins	Statistical Clerk, Agricultural Economics, 1960
Leslie J. Jones	Farm Foreman, Agronomy and Soils, 1959
Martha Ann Kelly	Typist, Agricultural Engineering, 1960

Carroll Lee Klepac	Laboratory Technician, Dairy Science,	1960
Mayo Lancaster	Asst. Foreman, Dairy Science,	1956, 1957
Nancy Harriett Land	Typist, Home Economics,	1960
H. M. Lane	Farm Foreman, Horticulture,	1921, 1946
Eunice Langley	Secretary, Horticulture,	1934, 1942
Mary Jane Lester	Secretary, Agricultural Publications,	1957, 1959
Joe Allen Little, B.S.	Senior Technician, Dairy Science,	1959
E. E. Mansfield	Chief Clerk, Agricultural Economics,	1939, 1959
M. C. Mathison	Farm Foreman, Dairy Science,	1942, 1957
Delores B. Merrill	Stenographer, Zoology-Entomology,	1960
Gail McLeod	Laboratory Technician, Botany,	1959
Lola C. McMillan	Clerk "A", Agricultural Library,	1953, 1959
Betty C. McMurtry	Typist, Agronomy and Soils,	1959
Martha W. Nunnery	Typist, Forestry,	1960
Carol J. Parker, B.S.	Laboratory Technician "A", Animal Science,	1959
Carolyn A. Parsons, B.A.	Lab. Technician "A", Animal Science,	1958, 1959
Louise Price	Secretary, Agricultural Economics,	1940, 1943
Billy Rose Quinn, R.N.	Lab. Technician "A", Animal Science,	1956, 1959
Regina A. Rhoades	Laboratory Technician "A", Dairy Science,	1954, 1959
Nancy Mason Rice, B.A.	Lab. Technician "A", Botany & Plant Pathology,	1959
Helen Judith Richardson	Stenographer, Forestry,	1959
Janet T. Riemer, B.S.	Laboratory Technician, Dairy Science,	1958, 1960
Nancy White Roberts	Stenographer, Dairy Science,	1960
Margaret K. Russell	Secretary, Agricultural Engineering,	1958
Harry L. Sangigian	Laboratory Technician, Poultry Science,	1959, 1960
Mary Ross Searcy	Stenographer, Horticulture,	1960
Clara T. Seibold, B.S.	Senior Lab. Technician, Poultry Science,	1957, 1959
Joan E. Sellers	Secretary, Agricultural Economics,	1960
Christeen M. Shivers	Laboratory Technician, Animal Disease Research,	1959
Peggy McNeill Smith	Laboratory Technician "A", Animal Science,	1960
Sara Jane Smith	Typist "A", Home Economics,	1957, 1960
Melba Stone	Statistical Clerk, Agricultural Economics,	1951
Helen Thomason	Statistical Clerk, Agricultural Economics,	1951
Sandra L. Tucker	Laboratory Technician "A", Animal Science,	1960
Linda Hargrove Voigt	Stenographer, Zoology-Entomology,	1960
Brenda Ward Walker	Stenographer, Zoology-Entomology,	1960
James C. Waller	Greenhouse Attendant, Agronomy and Soils,	1959
Margaret M. Waller	Typist "A", Poultry Science,	1958, 1959
Leonard L. Walston	Laboratory Technician "A", Ornamental Horticulture Field Station, Mobile,	1956, 1959
Lee Welch Ward	Typist, Agricultural Economics,	1960
Bertha Wood	Stenographer, Agronomy and Soils,	1959
Grace Mullins Wright	Typist "A", Dairy Science,	1945, 1959
Iva Hill Yates	Clerk, Poultry Science,	1958, 1959

## AGRICULTURAL EXTENSION SERVICE STAFF

RALPH BROWN DRAUGHON, B.S., M.S., LL.D.  
*President*

E. T. York, Jr., B.S., M.S., Auburn University; Ph.D., Cornell, Director, 1959  
 Fred R. Robertson, Jr., B.S., M.S., Tennessee; DPA, Harvard, Assoc. Dir. 1959, 1960  
 H. E. Williams, A.B., Birmingham-Southern, Head, Management Service, 1945, 1960  
 Mrs. Mary E. Coleman, B.S., Auburn University; M.S., Columbia,  
 State Home Demonstration Agent, 1936, 1958  
 L. O. Brackeen, B.S., Auburn University, Director of Public Information

### SUPERVISORS

W. H. Taylor, B.S., Auburn University; M.S., Cornell District Agent, 1946, 1958  
 R. M. Reaves, B.S., Auburn University District Agent, 1927, 1951  
 H. M. Warren, B.S., Auburn University; M.S., Cornell District Agent, 1945, 1958  
 T. W. Lumpkin, B.S., Auburn University District Agent, 1934, 1941  
 Mary Hulsey, B.S., Auburn University; M.S., Columbia  
 Dist. Home Dem. Agent, 1941, 1958  
 Eunice Ivey, B.S., Alabama College; M.S., Alabama  
 Dist. Home Dem. Agent, 1949, 1957  
 Mrs. Patty Parkman, B.S., Alabama College  
 Dist. Home Dem. Agent, 1947, 1952  
 Lucile Mallette, B.S., Auburn University; M.S., Minnesota  
 Dist. Home Dem. Agent, 1936, 1941

### SPECIALISTS

O. N. Andrews, B.S., M.S., Auburn University Extension Agronomist, 1942, 1955  
 R. G. Arnold, B.S., M.S., Auburn University Specialist in  
 Community Development, 1914, 1957  
 John Bagby, B.S., VPI Specialist in Commercial Horticulture, 1944, 1949  
 A. J. Brown, B.S., M.S., Auburn University Specialist in Poultry  
 Marketing, 1948, 1960  
 Ann Barr, B.S., Alabama College Girls 4-H Club Leader, 1945, 1950  
 Lyle Brown, B.S., Auburn University Specialist in Visual Aids, 1930, 1949  
 Elizabeth Bryan, B.S., Auburn University; M.S., Tennessee  
 Extension Economist, Home Management, 1939, 1957  
 A. R. Cavender, B.S., M.S., Tennessee Specialist in Meat Marketing, 1958, 1960  
 Walter K. Cheney, B.A.A., Auburn University Artist, 1958, 1960  
 R. R. Chesnutt, B.S., Auburn University Agricultural Editor, 1941, 1948  
 K. J. Copeland, B.S., Auburn University News Editor, 1957, 1960  
 W. T. Cox, B.S., Auburn University Specialist in Farm Buildings, 1950, 1951  
 S. L. Davis, B.S., Auburn University; M.S., Cornell Specialist in  
 Poultry, 1942, 1960  
 S. R. Doughty, B.S., Iowa State College Specialist in  
 Farm & Home Development, 1923, 1960  
 Isabelle Downey, B.S., Auburn University; M.S., Georgia Specialist  
 in Food Preservation, 1944, 1958  
 Lawrence Ennis, B.S., Auburn University Spec. in Soil Engineering, 1945, 1949  
 R. C. Farquhar, B.S., M.S., Auburn University Spec. in Beef  
 Cattle and Sheep Mktg., 1949, 1959  
 J. T. Gaillard, B.S., Auburn University Spec. in Farm Mechanization, 1944, 1949  
 M. R. Glasscock, B.S., Auburn University Area Agent in Rural  
 Development, 1941, 1960  
 W. H. Grimes, B.S., M.S., Auburn University Survey Entomologist, 1957  
 Thomas B. Hagler, B.S., M.S., Auburn University; Ph.D., University of  
 Maryland Chairman, Plant Science Division, 1960  
 Foy Helms, B.S., Auburn University Agricultural Economist, 1943, 1949  
 J. R. Hubbard, B.S., Auburn University; M.S., Cornell Specialist in  
 Poultry, 1939, 1960  
 J. E. Jernigan, B.S., Auburn University Specialist in Cotton, 1944, 1955  
 A. B. Jetton, B.S., Alabama News Editor, 1956, 1960  
 A. W. Jones, B.S., Auburn University Specialist in Marketing, 1934, 1947  
 R. R. Jones, B.S., Auburn University; M.S., Michigan State  
 Specialist in Extension Training and Development, 1936, 1957



R. S. Jones, B.S., Auburn University	Dairyman, 1941, 1959
Troy Keeble, B.S., Auburn University	Spec. in Ornamental Horticulture, 1958
E. F. Kennamer, B.S., M.S., Auburn University	Spec. in Wildlife, 1940, 1960
Worth Lanier, B.S., Mississippi State Univ.; DVM, Auburn University	Extension Veterinarian, 1960
J. L. Lawson, B.S., Auburn University	Spec. in Rural Development, 1924, 1959
H. E. Logue, B.S., M.S., Auburn University	State 4-H Club Leader, 1942, 1948
J. C. Lowery, B.S., Auburn University	Extension Agronomist, 1923, 1934
C. L. Maddox, B.S., M.S., Auburn University	Specialist in Farm Management, TVA, 1954, 1960
Elta Majors, B.S., Auburn University; M.S., Tennessee	Specialist in Child Care and Family Life, 1934, 1940
I. R. Martin, B.S., M.S., LSU	Extension Forester, 1941, 1948
M. M. Moorer, B.S., Auburn University	Specialist in Seed Marketing, 1957
J. Glenn Morrill, B.S., Brigham Young University; M.S., Utah State University; Ed.D., Cornell	Spec. in Extension Training & Development, 1960
Dorothy Overbey, B.S., Tennessee	Specialist in Consumer Education, 1943, 1949
J. R. Parrish, B.S., M.S., Auburn University	Extension Dairyman, 1938, 1948
Alice Peavy, B.S., Alabama; M.A., Columbia	Extension Economist, Home Furnishing, 1941, 1947
G. B. Phillips, B.S., Auburn University	Spec. in Animal Industry, 1927, 1947
Fariss Prickett, B.S., Auburn University	Spec. in Foods and Nutrition, 1955, 1958
Jeanne Priester, B.S., Alabama College; M.S., Auburn Univ.	Specialist in Clothing and Handicraft, 1958, 1960
W. A. Ruffin, B.S., Auburn University; M.S., Iowa State College	Entomologist, 1924, 1936
R. O. Russell, B.S., M.S., Auburn University	Specialist in Livestock Marketing, 1959
J. H. Sellers, B.S., Auburn Univ.	Spec. in Beef Cattle Production, 1939, 1960
W. R. Sharman, B.S., M.S., Auburn Univ.	Radio and TV Editor, 1958, 1960
Melvin W. Smith, B.S., M.S., Auburn Univ.; Ph.D. Ohio State Univ.	Spec. in Fruits and Vegetable Marketing, 1960
Walter F. Sowell, B.S., M.S., Auburn Univ.; Ph.D. Purdue	Specialist in Soils Management, 1948, 1960
G. G. Stewart, B.S., Nebraska	Specialist in Visual Aids, 1939, 1949
**Kathleen Thompson, B.S., Alabama	Specialist in Clothing and Handicraft, 1944, 1952
W. R. Williams, B.S., Auburn University	Analyst, Unit Test Demonstration, 1946, 1959

## OTHER STAFF

Mrs. Rosslyn Anderson	Clerk, 1960
Mrs. Betty Brown	Editorial Asst., 1960
Mrs. Mignon Burgess	Secretary, 1943, 1950
Mrs. Mary Jo Davidson	Clerk "A", 1943, 1959
Mrs. Jessie Dawkins	Stenographer, 1960
Brenda Ann Eden	Stenographer, 1960
Mrs. Geraldine Fick	Secretary, 1943
Mrs. Sandra Gandler	Stenographer, 1960
Mrs. Charlotte Garrison	Stenographer, 1959
Mrs. Mildred S. Golden	Stenographer, 1959
Mrs. Myrtle Good	Recorder of Reports, 1929, 1947
Mrs. Elizabeth Hill, B.A., Auburn University	Clerk "A", 1959, 1960
Mrs. Lucile Hughes	Stenographer, 1960
Mrs. Kathryn Ingram	Secretary, 1960
Lucile Ingram	Clerk "A", 1945, 1959
Mrs. Ann S. James	Stenographer, 1959
Mrs. Jeannette Jernigan	Secretary, 1957, 1960
Dalene Jeter	Administrative Secretary, 1928, 1947
Rennie B. Jeter	Business Assistant, 1934, 1947
Mrs. Sarah Jones	Typist, 1957, 1959

\*\* On leave.

Mrs. Marion Lamar	Stenographer, 1950, 1959
Mrs. Maxine Ledbetter	Stenographer, 1950, 1960
Mrs. Faye P. Lee	Typist "A", 1959
Rosemary Long	Stenographer, 1960
Mrs. Betty Jane McPeak	Typist, 1960
Myrtle Jane Miller	Stenographer, 1959
Mrs. Anne Patterson, B.S., U. of Georgia	Editorial Assistant, 1959
Mrs. Jacqueline Pennell	Audio Visual Tech., 1960
Mrs. Mary W. Pettus	Stenographer, 1958, 1960
Mrs. Gay Phillips, B.S., University of Georgia	Typist, 1960
Judy Pollard	Stenographer, 1959
Mrs. Joyce K. Prescott	Editorial Asst., 1959
Mrs. Etta W. Ray	Mimeo. Operator, 1955, 1959
Mrs. Evelyn S. Robinson	Stenographer, 1956, 1959
Nora Rothrock, A.B., Loulie Compton Seminary	Secretary, 1923
Mrs. Mary Ann Schatz	Stenographer, 1959
Mrs. Joyce Schwarz	Stenographer, 1959
Mrs. Doris Slaughter	Clerk "A", 1958, 1959
Mrs. Robbie F. Smith, B.S., Auburn University	Photo. Technician, 1960
Mrs. Jane L. Talley	Clerk, 1960
Mrs. Ruthie Jean Taylor	Stenographer, 1959
Mrs. Jean Thoss	Stenographer, 1960
Mrs. Jo Anne Timmerman	Typist "A", 1960
Mrs. Connie Vines	Stenographer, 1960
Mrs. Elizabeth Wanninger	Stenographer, 1957, 1959
Mrs. Mary Williams, B.A., Lenoir Rhyne College	Editorial Asst., 1960

### COUNTY WORKERS

*(List for each county as follows: County address, county agent, assistant county agent; home demonstration agent, assistant home demonstration agent, first appointment, present appointment. All degrees are from Auburn University unless otherwise indicated.)*

<b>AUTAUGA</b> Prattville	R. H. Kirkpatrick, B.S., 1944, 1953; J. R. Danion, B.S., M.S., University of Georgia, 1960. Margaret Campbell, B.S., Alabama College, M.S., Tennessee, 1950, 1956; Mary Anne Bailey, B.S., Alabama, 1958.
<b>BALDWIN</b> Bay Minette	F. C. Turner, B.S., 1938, 1944; W. H. Johnson, B.S., 1934, 1936; J. T. Boulter, B.S., 1956; J. A. Marable, B.S., M.S., 1955. Mrs. Mary C. Silvey, B.S., 1955, 1957; Mrs. Eugenia Weekley, B.S., 1937, 1958; Mrs. Marvell Gwaltney, B.S., Alabama, 1959.
<b>BARBOUR</b> Clayton	J. W. Walton, B.S., 1946, 1953; J. L. Parker, B.S., 1960; **J. A. Hayles, B.S., M.S., 1953. Mrs. Frances Watson, A.B., Huntingdon, 1934, 1937; Mary Ellen Crews, B.S., 1958, 1959.
<b>BIBB</b> Centreville	J. C. Odom, B.S., 1935, 1946; T. W. Camp, B.S., 1951, 1952. Kirtis Martin, B.S., 1933, 1937.
<b>BLOUNT</b> Oneonta	D. S. Loyd, B.S., 1942, 1954; J. B. Butler, B.S., 1954; L. C. McCall, B.S., 1955. Mildred Gilbert, B.S., 1944, 1949; Mary L. Walker, B.S., Peabody, 1954, 1957; Fairree Sandlin, B.S., University of Alabama, 1959.
<b>BULLOCK</b> Union Springs	W. E. Stone, B.S., 1947, 1955; Dean W. Parris, B.S., 1959. Carolyn Henderson, B.S., 1941, 1947.
<b>BUTLER</b> Greenville	W. Myles Mayberry, B.S., M.S., 1948, 1960; F. H. Morgan, B.S., 1946; R. C. Thompson, B.S., 1954; J. P. Moore, B.S., 1953, 1957. Laurene Howell, B.S., Alabama, 1949, 1959; Willene Johnston, B.S., Alabama College, 1960.
<b>CALHOUN</b> Anniston	A. S. Mathews, B.S., 1941, 1942; T. L. Bass, B.S., 1946; Goode Nelson, A.B., Alabama, 1945, 1948; L. G. Pair, B.S., 1948, 1957. Mrs. Yancey Walters, B.S., Alabama College, 1948, 1950; Amelia Frost, B.S., 1958; Mrs. Elizabeth Stewart, B.S., 1945, 1959.

\*\* On leave.

- CHAMBERS**  
LaFayette E. L. Stewart, B.S., M.S., 1944, 1946; R. C. Horn, B.S., 1944; C. F. Bentley, B.S., 1956.  
Exa Till, B.S., 1946, 1948; Jean P. West, B.S., Alabama, 1955.
- CHEROKEE**  
Centre J. J. Young, B.S., 1933, 1944; \*R. J. Ballew, B.S., 1954; F. M. Patterson, B.S., 1954, 1960; T. C. Owen, B.S., 1945, 1956.  
Geneva Marshall, B.S., 1941, 1943; Mrs. Virginia Garmon, B.S., Alabama College, 1945, 1958.
- CHILTON**  
Clanton J. D. Sellers, B.S., 1949, 1960; D. R. Mims, B.S., 1953; W. R. Futral, B.S., 1959.  
Mrs. Johnnie Lane, A.B., Judson, 1952, 1954; Faye Davis, B.S., Jacksonville, 1959.
- CHOCTAW**  
Butler Mathew Sexton, B.S., 1937, 1947; R. B. Deavours, B.S., 1946, 1948.  
Mrs. Grace Prince, B.S., 1951, 1956; Johnie Beauchamp, B.S., Alabama College, 1960.
- CLARKE**  
Grove Hill O. C. Helms, B.S., 1930, 1933; Howard Blair, B.S., 1942, 1945.  
Lucile Burson, B.S., M.S., 1936.
- CLAY**  
Ashland W. H. Cowan, B.S., 1936, 1941; W. E. Wilson, B.S., 1954.  
Dora Smith, B.S., Alabama College, 1952, 1953; Rochelle Williams, B.A., Mississippi, 1958.
- CLEBURNE**  
Heflin T. A. Ventress, B.S., 1937, 1948; E. C. Farrington, B.S., 1941.  
Annie Rae Milner, B.S., Alabama College, 1941, 1942; Gloria Edgeworth, Alabama College, B.S., 1960.
- COFFEE**  
Enterprise J. R. Speed, B.S., 1943, 1945; M. B. Tidwell, B.S., 1957; T. C. Casaday, B.S., 1949, 1955.  
Mrs. Sarah Hutchinson, B.S., Howard College, 1956; Mrs. Tommie Wakefield, B.S., 1958.
- COLBERT**  
Tuscumbia D. G. Somerville, B.S., 1939, 1942; B. T. Richardson, B.S., 1945; F. D. Robinson, B.S., 1949, 1953.  
Mrs. Christa Hall, B.S., Alabama, 1950, 1960.
- CONECUH**  
Evergreen M. H. Huggins, B.S., 1936, 1958; K. J. Copeland, B.S., 1957, 1959; H. J. Oakley, B.S., 1954.  
Marilyn Anderson, B.S., Alabama, 1957, 1959; Addie R. Powers, B.S., Alabama, 1959.
- COOSA**  
Rockford C. H. Webb, B.S., 1957, 1958; W. F. Williams, B.S., 1956.  
Claire Bishop, B.S., 1953, 1954.
- COVINGTON**  
Andalusia W. H. Kinard, B.S., M.S., 1954; Robert E. Linder, B.S., 1960; W. T. Carnes, B.S., 1959; C. W. Pike, B.S., 1952, 1953.  
Alma Holladay, B.S., 1941, 1956; Mrs. Olivia W. Renkl, B.S., 1953, 1954; Nan E. Shelley, B.S., 1959.
- CRENSHAW**  
Luverne O. W. Reeder, B.S., 1941, 1948; G. B. Handley, B.S., 1948.  
Ida Jo Harrison, B.S., Alabama College, 1956, 1958; Linda Albritton, B.S., 1960.
- CULLMAN**  
Cullman H. S. Pinkston, B.S., 1937, 1945; C. F. Thomas, B.S., M.S., 1958; O. Y. Smith, B.S., M.S., 1955.  
Mrs. Mary Sue Tillery, B.S., 1947, 1948; Mrs. Inez Ballew, B.S., 1954; Mrs. Jo Ann Lowery, B.S., 1955.
- DALE**  
Ozark W. D. Thomason, B.S., 1931; T. G. Hubbard, B.S., 1936; Robert N. Hall, B.S., M.S., 1960.  
Ruth Sundberg, B.S., M.S., Tennessee, 1941, 1951; Mrs. Ann N. Knowles, B.S., Georgia State College for Women, 1959.

\* On leave.

- DALLAS**  
Selma L. C. Alsobrook, B.S., 1942, 1949; W. M. Arrington, B.S., 1950, 1953; J. C. French, B.S., 1959.  
Dorothy Hixson, B.S., Alabama College, M.S., Columbia, 1937, 1940; Mrs. Jeanette McDowell, B.S., 1953, 1960.
- DeKALB**  
Ft. Payne H. H. Marks, B.S., 1954, 1960; D. C. Poe, B.S., 1956, 1957; Carl Parker, B.S., 1944.  
Douglas Williams, B.S., 1940, 1947; Sarah Anderson, B.S., Jacksonville State, 1959.
- ELMORE**  
Wetumpka J. E. Morriss, B.S., M.S., 1935; W. E. Davis, B.S., 1959; V. L. Keeble, B.S., 1942; F. H. Lovvorn, B.S., 1957.  
Betty Hamilton, B.S., Alabama, 1947, 1953; Hattie Wilson, B.S., Alabama College, 1947, 1954; June Platt, B.S., Alabama, 1957.
- ESCAMBIA**  
Brewton F. A. Rew, B.S., Mississippi A&M, 1922, 1946; C. B. Vickery, B.S., 1948.  
Mrs. Juanita Hendrix, B.S., Alabama College, 1959, 1960; Virginia Hardenbergh, B.S., 1960.
- ETOWAH**  
Gadsden T. L. Sanderson, B.S., M.S., 1943, 1949; H. J. Jackson, B.S., Georgia, 1944; A. D. Jones, B.S., 1948.  
Mrs. Sara L. Thomas, B.S., 1947, 1948; Genta Sharpe, B.S., 1960.
- FAYETTE**  
Fayette Albert Pitts, B.S., 1952, 1958; C. C. Baskin, B.S., 1957; John Elliott, B.S., 1953, 1956.  
Annie Mary Hester, B.S., Berry College, M.S., Alabama, 1953, 1956; Mrs. Jean McCracken, B.S., Alabama, 1957.
- FRANKLIN**  
Russellville H. A. Ponder, B.S., 1935, 1949; H. W. Warren, B.S., 1945, 1951; H. B. Thornhill, B.S., 1941, 1955; Larry W. Roberts, B.S., 1960.  
Joyce McNutt, B.S., 1954, 1957; Barbara Owens, B.S., Florence State, 1958.
- GENEVA**  
Geneva R. C. Reynolds, B.S., M.S., 1954, 1960; B. E. Anderson, B.S., 1960; J. C. Beasley, B.S., 1960.  
Mrs. Carrie Threaton, B.S., Alabama College, 1929, 1935; Emily Hodges, B.S., Alabama College, 1960.
- GREENE**  
Eutaw W. H. Johnson, B.S., 1935, 1942; A. M. Mathews, B.S., 1947, 1954.  
Mary Forney Hughes, B.S., Alabama, 1949, 1950.
- HALE**  
Greensboro J. B. Deavours, B.S., 1937, 1946; J. N. Glass, B.S., 1948, 1950; E. M. Knowles, B.S., 1953, 1957.  
Mrs. Goldie Kerr, B.S., Alabama, 1951; Marie Peinhardt, B.S., 1959.
- HENRY**  
Abbeville R. C. Hartzog, B.S., 1946, 1955; Carl Dennis, B.S., 1954; C. L. Barefield, B.S., 1951, 1955.  
Lillian Cox, B.S., Mississippi State College for Women, 1933, 1935; Wilma J. Gross, B.S., 1959.
- HOUSTON**  
Dothan G. D. H. McMillan, B.S., 1942, 1956; R. J. Ledbetter, B.S., 1954; J. N. White, B.S., 1936, 1948; M. D. Bond, B.S., M.S., 1955.  
Julia Smith, B.S., 1955, 1956; Mrs. Cherry Canup, B.S., 1959; Shirley Karr, B.S., Howard College, 1960.
- JACKSON**  
Scottsboro J. E. Carter, B.S., 1928, 1947; E. C. Halla, B.S., 1953; S. L. Worley, B.S., 1943, 1947.  
Mrs. Clyde Peck, B.S., 1942, 1946; Kathern Sisk, B.S., Florence State Teachers College, 1959.
- JEFFERSON**  
Birmingham C. H. Johns, B.S., 1937, 1946; B. O. McDonald, B.S., 1959; C. W. Burns, B.S., 1957; R. A. Griffin, B.S., M.S., 1960; E. N. Graham, B.S., M.S., Mississippi State University, 1960.  
Irby Barrett, B.S., 1933, 1938; Barbara Fite, B.S., Alabama College, 1956.

LAMAR Vernon	H. H. Lumpkin, B.S., 1950, 1954; L. G. Gober, B.S., 1960. Vervil Mitchell, B.S., M.S., University of Tennessee, 1949, 1951; Barbara Clements, B.S., Alabama, 1953.
LAUDERDALE Florence	L. T. Wagnon, B.S., 1935, 1957; S. M. Eich, B.S., 1957; A. C. Heaslett, B.S., 1957; John B. Henderson, B.S., M.S., 1960. Sara F. Conner, B.S., Alabama College, 1949, 1958; Mrs. Marilyn Moore, B.S., Tennessee, M.S., Alabama, 1958; Willie Mae Crockett, B.S., Florence State Teachers College, 1957, 1959.
LAWRENCE Moulton	S. P. McClendon, B.S., 1943, 1946; H. B. Price, B.S., 1945; J. H. Pitts, B.S., 1955. Mrs. Ruby Looney, B.S., Athens College, 1953, 1956; Betty L. Woodruff, B.S., Alabama, 1958.
LEE Opelika	R. W. Teague, B.S., 1948, 1958; P. O. Johnson, B.A., 1959. Mrs. Elizabeth Crum, B.S., 1955, 1957; Mrs. Barbara McMillan, B.S., LSU, 1958.
LIMESTONE Athens	F. K. Agee, B.S., 1945, 1947; C. R. Morrow, B.S., 1946; J. A. Thompson, B.S., 1957. Mrs. Emma Jo Lindsey, B.S., 1948, 1954; Helen J. Collier, B.S., Jacksonville State, 1958, 1959.
LOWNDES Hayneville	J. W. Mathews, B.S., 1933; T. J. Gerald, B.S., 1946. Mrs. Mary Maddux, B.S., 1957, 1960.
MACON Tuskegee	J. M. Bolling, B.S., 1939, 1946; Dewey Lee, B.S., M.S., Florida State University, 1960. Eunice Prater, B.S., Alabama College, 1953, 1956.
MADISON Huntsville	R. O. Magnusson, B.S., 1948, 1955; H. L. Hood, B.S., 1936, 1957; C. H. Segrest, B.S., 1956; B. R. Carroll, B.S., 1960. Mrs. Oenone Cook, B.S., 1943, 1947; Mrs. Marie Vann, B.S., Ala- bama College, 1947, 1958.
MARENGO Linden	F. M. Jones, B.S., 1935, 1938; Cecil Miller, B.S., 1954; Rudy P. Yates, B.S., 1960. Mrs. Marjorie Weaver, B.S., 1943, 1955; Mrs. Mary Ann Weston, B.S., Howard College, 1957, 1960.
MARION Hamilton	J. F. Yarbrough, B.S., 1918, 1945; M. T. Whisenant, B.S., 1949, 1950; I. D. Thornton, B.S., 1944. Elna Tanner, B.S., 1950, 1952; Janice McCant, B.S., Alabama, 1959.
MARSHALL Guntersville	W. L. Martin, B.S., 1942, 1944; R. L. Sherer, B.S., 1955; R. I. D. Murphy, B.S., 1958; John L. Parrott, B.S., 1959. Christine Huber, B.S., Peabody, 1944, 1950; Mrs. Opal Collins, B.S., Alabama College, 1951, 1954; Deloris Haynes, B.S., Jack- sonville State College, 1958.
MOBILE Mobile	C. J. Brockway, B.S., 1922, 1934; W. L. Deakle, 1943, 1944; J. P. Givhan, B.S., 1935, 1946; M. C. Mayfield, B.S., 1955. Mona Whatley, B.S., Peabody, 1941, 1945; Mrs. Mildred Payne, B.S., 1941, 1954; Mrs. Frances Radney, B.S., 1955.
MONROE Monroeville	A. V. Culpepper, B.S., 1928; R. J. Martin, B.S., 1946. Annie Richardson, A.B., Judson College, 1952.
MONTGOMERY Montgomery	T. P. McCabe, B.S., 1939, 1958; W. R. Helms, B.S., 1951, 1958; W. H. Kendrick, B.S., 1958. Mrs. Maude Woodfin, A.B., Huntingdon, 1933, 1950; Mrs. Vir- ginia Gilchrist, B.S., Alabama, 1955.
MORGAN Hartselle	C. D. Rutledge, B.S., 1948, 1957; H. W. Houston, B.S., 1954, 1957; J. R. Stephenson, B.S., 1959. Lucile Hawkins, B.S., Alabama College, 1948, 1950; Norma J. Wells, B.S., 1959.

- PERRY**  
Marion W. O. Hairston, B.S., 1946, 1954; J. A. Bates, B.S., 1950.  
Evelyn Graham, B.S., Alabama, 1950, 1954; Mrs. Joyce Richardson, B.S., Judson College, 1958.
- PICKENS**  
Carrollton C. G. Davis, B.S., 1948, 1954; G. T. Balch, B.S., 1957; R. E. Thornton, B.S., 1954.  
Mrs. Lorraine Meeks, B.S., Alabama, 1957; Barbara Kearley, B.S., 1960.
- PIKE**  
Troy H. J. Carter, B.S., 1935, 1936; G. S. Sessions, B.S., 1955, 1959; G. M. Wakefield, B.S., M.S., 1957.  
Margaret Brown, B.S., Alabama, 1943, 1944; Mrs. Florence Owens, B.S., FSU, 1958; Carolyn Tew, B.S., 1959.
- RANDOLPH**  
Wedowee C. A. Moore, B.S., 1955, 1958; T. J. Burnside, Jr., B.S., 1960.  
Billie Cotney, B.S., Alabama College, 1947, 1949; Corene Haggard, B.S., Alabama College, 1957.
- RUSSELL**  
Phenix City C. A. Woods, B.S., 1947, 1955; J. A. McLean, B.S., M.S., 1954, 1955.  
Marie Lambert, B.S., 1952.
- ST. CLAIR**  
Pell City H. L. Eubanks, B.S., 1934, 1946; W. D. Jackson, B.S., 1946; J. E. Yates, B.S., 1955.  
Aileen Puckett, B.S., Alabama, 1957; Lena K. Hodges, B.S., Jacksonville State, 1959.
- SHELBY**  
Columbiana A. A. Lauderdale, B.S., 1924; W. M. Clark, B.S., 1937, 1947; J. E. Jones, B.S., 1958.  
Marian Cotney, B.S., 1939.
- SUMTER**  
Livingston W. B. Story, 1930, 1932; B. D. Williamson, B.S., 1946; F. W. Kilgore, B.S., 1954.  
Mrs. Mildred Ennis, B.S., Tennessee, 1958; Mrs. Louise Ostrom, B.S., M.S., 1957.
- TALLADEGA**  
Talladega O. V. Hill, B.S., 1935, 1936; A. A. Hester, B.S., 1944; J. B. Mathews, B.S., 1949, 1951; L. P. Owens, B.S., 1954; R. H. Lee, B.S., 1958.  
Mary Baughn, B.S., Alabama College, 1951, 1957; Patricia Nunn, B.S., 1957; Julia Doughty, B.S., Alabama, 1960.
- TALLAPOOSA**  
Dadeville F. N. Farrington, B.S., 1930, 1932; R. R. Clark, B.S., M.A., 1948; V. C. Bice, B.S., 1958; R. W. Thompson, B.S., M.S., 1958.  
Mrs. Margaret Miller, B.S., 1949, 1958; Darnell Thorne, B.S., University of Alabama, 1960.
- TUSCALOOSA**  
Tuscaloosa B. R. Holston, B.S., 1934, 1938; James Cooper, B.S., 1948; French Sconyers, B.S., 1943, 1947; J. N. Williams, B.S., 1950, 1954.  
\*\*Mrs. Christine Risher, B.S., Mississippi State College for Women, 1955, 1959; Mrs. Helen Hill, B.S., Alabama College, 1941, 1949; Eleanor Wilson, B.S., Mississippi State College for Women, M.S., Alabama, 1958; Camille Dunkin, B.S., Alabama, 1958, 1960.
- WALKER**  
Jasper J. C. Bullington, B.S., 1939, 1944; W. D. Jones, B.S., 1954; W. J. Thompson, B.S., M.S., 1954, 1955.  
Mrs. Jeanette Argo, B.S., Alabama College, 1949, 1959; Mary Ann Strickland, B.S., Alabama, 1959; Martha Lindsey, B.S., Alabama College, 1960.
- WASHINGTON**  
Chatom H. Moss, B.S., 1937, 1948; D. O. Estes, B.S., 1949, 1952.  
Julianne Thompson, B.S., 1957, 1960; Mrs. Roma J. Weeks, B.S., Mississippi Southern, 1959.
- WILCOX**  
Camden F. M. Barnett, B.S., 1943, 1944; W. J. Hardy, B.S., 1954.  
Margaret Whatley, B.S., 1941, 1944; Mrs. Barbara Acker, B.S., Alabama College, 1960.
- WINSTON**  
Double Springs W. L. Richardson, B.S., 1935, 1945; J. E. Fields, B.S., 1949.  
Madge Pennington, B.S., 1941, 1942.

\*\* On leave.



## STATE REGULATORY SERVICE

## CHEMISTRY

SAUNDERS, CHARLES RICHARD, B.S., M.S., Ph.D.	State Chemist, 1924, 1950
BIDEZ, PAUL RUBENS	Principal Chemist, 1920, 1940
BIDEZ, ALICE BEASLEY	Secretary, 1934
CHEN, FRED A., B.A.	Agricultural Chemist, 1958
HARRIS, ROBERT RUSHIN, A.B.	Agricultural Chemist, 1954
RICHBERG, REX WESLEY, B.S.	Senior Agricultural Chemist, 1950

## STATE VETERINARY DIAGNOSTIC LABORATORY

(Conducted in cooperation with the Alabama State Department of Agriculture and Industries and the United States Department of Agriculture, Agricultural Research Service)

GREENE, JAMES E., D.V.M., M.S.	Dean, School of Veterinary Medicine, 1937, 1958
MILLIGAN, JOHN G., B.S., D.V.M.	State Veterinarian, 1951
*ROBERTS, CHAS. S., D.V.M., M.S.	In Charge of State Diagnostic Laboratory, 1947, 1958
HUNTER, KATHRYN	Laboratory Assistant I, State Diagnostic Laboratory, 1959
PHILLIPS, MARTHA	Laboratory Assistant II, State Diagnostic Laboratory, 1959
PIERCE, CHERRY, B.S.	Bacteriologist, State Diagnostic Laboratory, 1957
WHITE, GERALDINE W.	Secretary, State Diagnostic Laboratory, 1958
WORTHY, MARY	Laboratory Assistant II, State Diagnostic Laboratory, 1959
EMRICK, V. R.	U.S. Dept. of Agriculture, Agricultural Research Service, In Charge of Bang's Disease Laboratory, 1949
BRADFORD, R. H.	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1955
MC CREARY, V. D., D.V.M.	In Charge of State Branch Veterinary Diagnostic Laboratory, Albertville, Alabama, 1960
THOMPSON, JAMES L.	U.S. Dept. of Agriculture, Agricultural Research Service, Livestock Inspector, 1960
WILLIAMSON, O. B.	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1955
WILLIAMSON, RUTH	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1957
FULLER, JOHNNIE	Secretary, State Branch Veterinary Diagnostic Laboratory, Albertville, Alabama, 1960
TOLBERT, VONBORO SUE	Secretary, State Branch Veterinary Diagnostic Laboratory, Albertville, Alabama, 1955

\* Jointly employed by Alabama Department of Agriculture and Industries and Experiment Station, Auburn University.

# General Information

## Historical Statement

The East Alabama Male College was located at Auburn by act of the Alabama Legislature February 1, 1856. The college was formally opened October 1, 1859, and shortly thereafter sponsorship was assumed by the Methodist Episcopal Church, South. In 1862 the War Between-the-States interrupted a prosperous period of growth, but the institution was reopened in 1866.

On June 2, 1862, the Congress of the United States passed the Land-Grant (or Morrill) Act which donated lands to the several states:

*"for the endowment, support, and maintenance, of at least one college, where the leading object will be without excluding other sciences and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and Mechanic Arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."*

On December 31, 1868, Alabama accepted this act of Congress and appointed a commission to sell the land scrip received from the United States and invest the proceeds. After some delay this was accomplished, and the investment so made became the original endowment of the institution. The State Legislature, by an act approved February 26, 1872, accepted an offer of the Alabama Conference of the Methodist Episcopal Church, South, to donate to the State the college building, land, equipment, and good will of the East Alabama Male College and located the Alabama Agricultural and Mechanical College at Auburn.

By another act of the Alabama Legislature — approved January 27, 1899 — the name of the college was changed to The Alabama Polytechnic Institute. Justification of this change was stated in the act:

*"The college has developed as originally designed into an institution where are taught not only the branches that relate to Agriculture and the Mechanic Arts but also the sciences and arts in general that relate to the industrial development of modern civilization."*

Thus Alabama recognized many years ago the importance of the institution's services to industry, to agriculture, and to education.

Pursuant to an act of the Alabama Legislature, effective January 1, 1960, The Alabama Polytechnic Institute was renamed and designated as Auburn University. The Board of Trustees confirmed this action by resolution October 30, 1959.

## Location

Auburn University is located at Auburn in Lee County. Auburn, a city of approximately 14,000 population, is located on the Western Railway of Alabama 59 miles east of Montgomery and 116 miles west of Atlanta, Georgia. It is on U.S. Highway 29, known as the Jefferson Davis Highway, and Alabama Highways Nos. 14 and 147.

Auburn is located at the southern border of the Piedmont area where it joins the Coastal Plains area. The elevation is 732 feet. The climate is delightful and healthful, the temperature being moderate throughout the year.

## Government

Under the organic and statutory laws of Alabama, Auburn University is governed by a Board of Trustees consisting of one member from each congressional district, an extra member from the congressional district in which the institution is located, and the Governor and the State Superintendent of Education, who are ex-officio members. The Governor is chairman. Members of the Board of Trustees are appointed by the Governor by and with the advice and consent of the State Senate and hold office for terms of twelve years each. Members of the board receive no compensation.

The Board of Trustees places administrative authority and responsibility in the hands of an administrative officer at Auburn. The institution is grouped for administrative purposes into divisions, schools, and departments.

## Sources of Revenue

Auburn University derives its support from the State and Federal Governments and from other sources. Funds are as follows:

1. Direct annual appropriations made by the State for support, maintenance, and development of public education, including campus instruction, agricultural research, agricultural extension, engineering research, and educational television.
2. Special appropriation made by the State for buildings, purchase of lands, and improvements.
3. Funds derived from the original endowment of the institution under the Federal Land-Grant Act and earnings from other subsequently acquired endowment funds.
4. Income derived from the payment by students of fees and other charges. All tuition at Auburn University is free, except to non-residents of Alabama, but certain fees are assessed to cover specific services.
5. The Morrill fund appropriated by the United States Government for the instruction of students in the sciences relating to agriculture and the mechanic arts and in the English language, literature, and for the training of teachers in agriculture and the mechanic arts.
6. Funds received from the State of Alabama through the Smith-Hughes Act derived from the congressional appropriation and paid to Auburn University for its work in the training of teachers of agriculture and home economics.
7. Such revolving funds as may be incident to the operation of any department where it is advisable to sell or dispose of products produced in the course of conducting the Experiment Station or any department of the institution.
8. Gifts, grants and donations received from alumni, private individuals and organizations both for general and restricted educational purposes, including scholarships.
9. Direct annual appropriations made by the United States Government for research purposes, and devoted to investigation of scientific agricultural problems of the farmers of the State. These funds are also for research purposes in connection with investigation of new experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products, and research work

regarding Home Economics, and for the purpose of publishing these results.

10. Direct appropriations made by the United States Government for the Agricultural Extension Service in support of County Agricultural and County Home Demonstration Agents, for the support of boys' and girls' 4-H club work, and for other types of extension work in agriculture and home economics in the several counties of Alabama.
11. Each county in the State makes certain appropriations to supplement those from the United States Government and the State of Alabama for the support of the Agricultural Extension Service.
12. Funds received from industry, governmental agencies and private individuals for special contractual research projects which are handled through the Auburn Research Foundation, Inc., and the Agricultural Experiment Station.

## The Campus

Major buildings and numerous smaller structures on the campus and their usage are as follows:

**Agricultural Engineering Building and Annex**, includes offices, classrooms, laboratories, and farm machinery storage for the Department of Agricultural Engineering.

**Airport Administration Building**, of modern fireproof construction located on the college-owned airport, containing classrooms and briefing rooms for flight instruction, airport administrative offices, and public service facilities.

**Alumni Gymnasium**, houses Department of Women's Physical Education and facilities for Intramural Sports.

**Alumni Hall**, a women's dormitory with dining hall facilities accommodating 98 students.

**Animal Disease Research Laboratory**, provides facilities for the isolation of animals with infectious diseases used in animal disease research.

**Animal Sciences**, in which are located classrooms and laboratories for teachers and research workers in animal science, dairy science, and poultry science.

**Auburn Hall**, a dormitory located on East Thach Avenue, accommodates 186 men students.

**Auburn Union Building**, located on Thach and Ross Square, is the focal point for out-of-class activities. The building houses Student Body offices, a ballroom, meeting rooms, the Alumni Association, the Faculty Club, the College Supply Store, Cafeteria and Snack Bar, banquet rooms, recreation rooms and hobby shops.

**Biggin Hall**, named for the late Dean Frederic Child Biggin, provides offices, drawing rooms and classrooms for the School of Architecture and the Arts.

**Broun Hall**, named for the late President William LeRoy Broun, used for classrooms and other work in mathematics, Air Force ROTC, Naval ROTC, and other subjects.

**Buildings and Grounds Building**, houses offices, shops and warehouses for the Department of Buildings and Grounds and a central heating plant for the main campus.

**Burke Dairy Laboratory**, named for the late Professor Arthur D. Burke, housing milk processing plant and laboratory for dairy manufacturing.

**Cary Hall**, named for the late Dean Charles Allen Cary, a modernly equipped structure housing offices, classrooms, laboratories, and the large animal clinic of the School of Veterinary Medicine.

**Cliff Hare Stadium**, named for the late Dean Clifford LeRoy Hare, serves as home playing field for the football team and track team. There are 43,000 permanent seats and 2,080 semi-permanent seats, together with the most modern press box in the Southeastern Conference.

**Comer Hall**, named for the late Governor B. B. Comer, in which are located the offices of the Dean of the School of Agriculture and Director of the Experiment Stations, research workers and members of the faculty of the School of Agriculture, and class rooms.

**Drake Infirmary**, named for the late Doctor John Hodges Drake, with hospital beds for 65 patients, serves the entire student body as a general health center.

**Duncan Hall**, named for the late President Luther Noble Duncan, is the headquarters for the Extension Service of Auburn University. The director, supervisors, and specialists have offices here.

**Dunstan Hall**, named for the late Arthur St. Charles Dunstan, provides offices, laboratories and classrooms for the Departments of Industrial Management, Electrical Engineering, Economics, and Languages.

**Extension Hall**, an office building used by the Extension Service.

**Educational Television Studios**, origination point for Auburn programs to the Alabama Educational Television Network. This building houses studios and offices for the Television Staff.

**Electrical Laboratory**, houses the AC Laboratory and Electrical Engineering Laboratories.

**Field House**, serves as dressing quarters for all sports teams and includes offices for coaches and athletic administrative offices.

**Fisheries Research Laboratory**, offices and laboratories for personnel in fisheries and farm pond research of the Department of Zoology-Entomology.

**Food Service Building**, a central warehouse for storage of all food supplies for the college's five dining halls. It includes Food Director's offices, sample display room, and large cold storage rooms for fresh fruits, vegetables and meats.

**Forest Hills Apartments**, consisting of nineteen new brick buildings containing 240 apartments for married students.

**Forestry Building**, a modern, well-equipped structure housing offices, classrooms, and laboratories for Forestry instruction and Research.

**Graves Centre Cottages** (30), provides housing for athletic students with dining hall facilities for athletes.

**Home Management Houses and Nursery Schools**, for students in Home Economics.

**"L" Building**, a two story building which accommodates the offices of the Department of Industrial Laboratories, classrooms, Men's Physical Education Department, Civil Engineering Labs, Photographic and Duplicating Service, Agricultural Education Shop, and Aeronautical Engineering Laboratories.

**Langdon Hall**, an auditorium with Student Guidance Service on the ground floor, and Dramatic Arts shop attached.

**Library**, the college library with 240,000 volumes. In addition there are thousands of Government publications.

**Men's Dormitory Group**, consisting of Magnolia Hall, Bullard Hall, Noble Hall, three new modern fireproof, four-story structures, with cafeteria facilities, housing 1,109 men students.

**Miller Hall**, named for the late Doctor Emerson R. Miller, provides offices, laboratories and classrooms for the School of Pharmacy.

**Music Building**, houses the Music Department.

**Physiology Building and Gross Anatomy Laboratory**, offices, classrooms and laboratories used by the Anatomy and Physiology Departments.

**Poultry Farm**, a group of buildings and facilities for use in instruction and research in Poultry Science.

**President's Home**, used as a residence by the President.

**Ramsay Hall**, named for the late Erskine Ramsay, the chief donor of the building, in which are located the offices of the Dean of Engineering, Director of Engineering Experiment Station, classrooms, and engineering laboratories.

**Ross Chemical Laboratory**, named for the late Doctor B. B. Ross, in which are located the offices of the Dean of the School of Chemistry, classrooms and laboratories for instruction in chemistry, and the State Chemistry laboratory.

**ROTC Building**, houses the offices and supply rooms for the Army ROTC and offices for Air Force ROTC.

**Military Hangar**, a structure 320 feet long by 145 feet wide, to accommodate Army and Navy ROTC training equipment and facilities including an indoor rifle range.

**Samford Hall**, named for the late Governor William J. Samford, in which are located the offices of the President, the Executive Vice-President, Dean of Faculties, the Business Manager, the Registrar, the Director of Student Affairs, Dean of the Graduate School, the departments of English, History, Publicity and many classrooms. It is known as the Administration Building.

**Serum Plant Building**, provides space for State Diagnostic Laboratory and Bangs Disease Laboratory.

**Shops**, a group of three buildings used as classrooms and laboratories for students in Industrial Engineering and Manual Arts.

**Small Animal Clinic**, houses classrooms, laboratories and offices for the Department of Small Animal Surgery and Medicine.

**Susan Smith Cottage and Lodge**, co-op housing for 26 women students.

**Smith Hall**, home economics laboratories and offices of the Dean of the School of Home Economics.

**Soil Conservation Service Building**, an office building used by the Soil Conservation Service.

**Sports Arena**, a building used for varsity basketball, intramural basketball, and other gymnastic activities.

**Student Activities Building**, used as an assembly hall for concerts, lectures, dances, physical education classes, and other special events scheduled on the campus.

**Temporary Buildings**, constructed through the FPFA, include 6 classroom buildings with classrooms, offices for the director of non-academic personnel, and 132 apartment units for married students and faculty.

**Textile Building**, houses offices of the Auburn Research Foundation and the director of Pre-Engineering as well as offices and laboratories of the Department of Textile Technology.



**Thach Hall**, provides offices, laboratories and classrooms for the School of Education and related field services.

**Tichenor Hall**, named after the late Reverend Isaac Taylor Tichenor, houses the School of Science and Literature, contains offices, classrooms, and laboratories.

**Wildlife Research Building**, office and laboratory space for the Alabama Cooperative Wildlife Research Unit.

**Wilmore Engineering Laboratory**, named after the late Dean John Jenkins Wilmore, houses offices, laboratories, and classrooms for the School of Engineering and the Department of Chemical Engineering.

**Women's Dormitory Group** — consisting of Elizabeth Taylor Harper Hall, Willie Gertrude Little Hall, Kate Conway Broun Hall, Allie Glenn Hall, Letitia Dowdell Hall, Annie White Mell Hall, Mary Lane Hall, Ella V. Lupton Hall, Margaret Kate Teague Hall, Dana King Gatchell Hall, Marie Bankhead Owen Hall, Helen Keller Hall, twelve modern dormitories, a dining hall and a social center, providing housing for 1,052 women students. The Dean of Women's Offices are located in the Social Center.

**Y-Hut**, used by the Dramatics Arts Department.

The **Agricultural Experiment Station System** of Auburn University owns 15,558 acres of land at the ten substations, five experiment fields, five forestry units, plant breeding unit, ornamental horticulture field station, and the main station at Auburn. Acreages and locations of the above mentioned units are as follows:

<b>Main Station</b>	Auburn	Lee	3,463
<b>Substations:</b>			
Black Belt	Marion Junction	Dallas	1,116
Chilton Area Horticulture	Clanton	Chilton	145
Gulf Coast	Fairhope	Baldwin	800
Lower Coastal Plains	Camden	Wilcox	2,539
North Alabama Horticulture	Cullman	Cullman	160
Piedmont	Camp Hill	Tallapoosa	1,405
Sand Mountain	Crossville	DeKalb	536
Tennessee Valley	Belle Mina	Limestone	755
Upper Coastal Plains	Winfield	Marion and Fayette	735
Wiregrass	Headland	Henry	523
<b>Experiment Fields:</b>			
Alexandria	Alexandria	Calhoun	90
Brewton	Brewton	Escambia	85
Monroeville	Monroeville	Monroe	80
Prattville	Prattville	Autauga	80
Tuskegee	Tuskegee	Macon	230
<b>Plant Breeding Unit</b>	Tallassee	Elmore	670
<b>Ornamental Horticulture</b>			
<b>Field Station</b>	Spring Hill	Mobile	6
<b>Foundation Seed Stocks Farm</b>	Thorsby	Chilton	180

In addition to the above, there are 1,960 acres at the Forestry Units in Autauga, Barbour, Coosa, and Fayette Counties.

## Women Students

Women were first admitted to Auburn University by the Board of Trustees in 1892. All regular university courses are open to both men and women. Courses of particular interest to women are Elementary and Secondary Education, Home Economics, Physical Education, Laboratory Technology, Secretarial Science, Architecture, Interior Design, Applied Art, General Art, Music, and Dramatic Arts.

### ADMISSIONS

**General Requirements.** — Applicants may be admitted when general requirements herein stated have been satisfied and when on the basis of complete official transcripts the applicant has been officially notified of his acceptance. Auburn University in the interest of good instruction reserves the right to reject any and all applicants whose admission would result in the overcrowding of instructional and housing facilities.

Applicants for admission will be considered in terms of their academic preparation, mental capacity, and aptitude for the course of study desired; morality; health; and psychological fitness for the environment, traditions and customs of this institution. In submitting admission credentials, give requested information fully and accurately. False or misleading statements can result in denial of admission or cancellation of registration.

Complete admission credentials must be filed with the Registrar at least three weeks prior to the opening of the quarter in which admission is desired. Because of the large number of applications, credentials should be filed at the earliest possible time.

Registration of new upperclassmen and orientation of freshmen will be held for each quarter as indicated in the University Calendar on pages 2 and 3. Detailed instructions will be mailed to applicants for admission. A service charge of \$5.00 will be made for registration after the official registration dates as indicated in the University Calendar.

Applicants for admission to the freshman class should request the high school principal to furnish credits directly to the Registrar. Admission blanks may be obtained from the Registrar. Applicants for admission with advanced standing must forward directly to the Registrar two official transcripts of record from each institution attended. Applicants are admitted to the first-year class in Architecture, Interior Design, and Veterinary Medicine at the beginning of the Fall Quarter only. Applicants may be admitted to other curricula in any quarter.

**Special Tests for New Students.** — Freshmen are assigned to regular or remedial sections in English and mathematics on the basis of placement test scores. Transfer students are required to take a college aptitude test. A student absent from any test without official permission will be assessed \$1.00.

Applicants graduating from Alabama high schools are requested to participate in the American College Testing Program administered in November, February and April at designated centers throughout the State. High school seniors will be notified of testing dates and furnished application forms by their high school principal. The program consists of tests in the areas of English, Mathematics, the Social Studies, and the Natural Sciences. Scores will be used as a basis for counseling toward admission and the student may

be advised to clear specific entrance requirements or take remedial work prior to enrollment.

**Admission to Freshman Class.** — The requirement for admission shall be graduation from an approved secondary school with a minimum of fifteen units (or twelve such units from a three-year senior school) or the equivalent of this requirement as shown by examination.

Non-graduates of mature age may be admitted to full freshman standing if scores made on the USAFI General Educational Development tests, a standard college aptitude test, and/or such special achievement tests or subject examinations as may be recommended by the Committee on Admissions, indicate education attainment equivalent to graduation from a four-year high school. Students entering from non-accredited schools may be accepted if they make satisfactory scores on tests prescribed by the Registrar.

For admission of out-of-state applicants, see page 70.

**Requirements in Mathematics.** — One unit of college preparatory mathematics is required for admission to all curricula. This must be a course in basic or fundamental mathematics specifically designed to include the study of the deductive nature of mathematics, and cannot be replaced by such courses as business mathematics, personal finance, general mathematics, etc.

A second unit of college preparatory mathematics is required for all curricula which include MH 111 — Introductory College Mathematics, and a third unit for those curricula requiring mathematics beyond the freshman year. The second unit must be principally the study of geometry, including the geometry of three dimensions. Students admitted with entrance deficiencies must clear them before registering for MH 111.

**Advanced Placement Program.** — An entering freshman who has participated in the Advanced Placement Program administered by the College Entrance Examination Board for high schools or has otherwise had advanced high school preparation may, upon passing a satisfactory examination, be permitted to waive a required course, or receive advanced credit toward his degree if approved by his dean.

To be eligible for consideration in the above program, an entering freshman must demonstrate by performance in the American College Testing Program, or comparable testing programs determined by the Registrar, that he stands in the upper ten percent of Auburn freshmen. Students who are so qualified and who are interested in obtaining advanced standing, should apply to the Registrar for an examination to establish competence in one or more of the areas of English, Mathematics, History, Chemistry, and Foreign Language. This should be done at least two months prior to entering Auburn.

A final decision on the amount of advanced credit which may be granted will be determined by the Dean of the School in which the student is enrolled.

**Admission to Advanced Standing.** — Advanced standing is granted to students transferring from standard colleges. To qualify for admission, the transfer student must be eligible to return to his former institution and must have met the standards set forth in the "Continuation in Residence" regulations carried on page 78; however, such regulations will not be applied in determining the eligibility of applicants who are graduates of accredited institutions. Applications for advanced standing should be submitted to the Registrar. The applicant shall submit two official transcripts of record including a state-

ment of honorable dismissal from each institution attended. Unless high school credits are shown on the college transcript, one transcript of the high school record must be filed. Students transferring from colleges not satisfactorily accredited will be granted provisional admission or may be required to stand examinations in all subjects for which credit is desired. The amount of advanced standing credit allowed will be determined by the dean and the Registrar. Credit for "D" grades will be allowed as approved by the dean. See Residence Requirements on page 81.

**Admission to Graduate Standing.**—Graduation with a Bachelor's degree or its equivalent from an accredited college or university is requisite for admission to the Graduate School. The undergraduate preparation of every applicant for admission must also satisfy the requirements of a Screening Committee of the school or department in which he desires to major. For further information see section on The Graduate School and write for special catalog.

**Admission of Special Students.**—Persons at least 20 years of age who cannot fulfill the regular admission requirements for freshman standing but otherwise have acquired adequate preparation for university courses may be admitted as special students on approval of the dean concerned. To become a candidate for a degree, a special student must meet entrance requirements.

## Educational Benefits for Veterans

Many current publications describe in complete detail the educational programs authorized by Congress under the following federal acts: Public Law 346 (G.I. Bill of Rights), Public Law 16 (Vocational Rehabilitation), Public Law 550 (Readjustment Assistance Act of 1952), Public Law 894 (Vocational Rehabilitation Revised), Public Law 634 (War Orphans Educational Assistance Act).

Auburn University is fully approved by the Veterans Administration to give training under these laws. Veterans planning to attend school under one of these laws should make application directly to the Veterans Administration and get prior approval before entering school.

Those entering school under the benefits of any one of the laws should have sufficient funds to finance themselves for one quarter or at least until payments begin coming in from the Veterans Administration (approximately two months).

For further information write to the Coordinator of Veterans Affairs, Auburn University, Auburn, Alabama.

## Non-Resident Students

Because of limited facilities and in the interest of good instruction, admissions are restricted, except in the case of children of alumni, to residents of Alabama and neighboring states. In addition to meeting general qualifications for admission, out-of-state freshman applicants must in high school have maintained a "C" average and have ranked in the upper half of their graduating class, or must qualify on the basis of college entrance tests.

In assessing fees students are classified as resident and non-resident students. In addition to fees charged to Alabama students, non-resident students

are required to pay a tuition fee of \$90.00 per quarter. This fee is remitted to sons and daughters of ministers. No tuition is charged to Alabama residents.

A resident student, if under 21 years of age, is one whose parents (or guardian) have been residents of Alabama for at least six consecutive months next preceding his original enrollment, or whose parents were residents of Alabama at the time of their death, and who has not acquired residence in another state. In all cases of guardianship, the period of guardianship must have been not less than six months at the time of original enrollment.

A resident student, if over 21 years of age, is one whose parents are, or were at the time of their death, residents of Alabama, and who has not acquired residence in another state; or who, as an adult, has been a resident of Alabama for at least six consecutive months next preceding his original enrollment; or who is the wife of a man who has been a resident of Alabama for at least six consecutive months next preceding his original enrollment.

All students not able to qualify as resident students are classified as non-resident students. If there is any possible question of his right to legal residence the applicant should bring the matter to the attention of the Registrar before registering. The burden of proof as to residence is upon the student. Any student who registers improperly under these regulations will be required to pay not only the non-resident fee but also a penalty fee of \$10.00. A student who does not clear this obligation within 30 days after official notice will have his registration cancelled.

Title 17, Article 2, Section 15 of the 1940 Code of Alabama, provides that residence may not be acquired by attendance at an institution of higher learning. No person who is once registered as a non-resident student shall be considered to have gained legal residence in Alabama by virtue of having attended college in this State. Persons whose legal residence follows that of parents or guardians shall be considered to have gained or lost legal residence in this State while in college according to changes of legal residence of parents or guardians, but legal residence shall not be considered to have been gained until six months after such persons have become legal residents of this State.

## ACADEMIC REGULATIONS

**Late Enrollment.** — After the date specified in the University Calendar no student may register except by permission of his dean. The load of a student who registers late shall be reduced at the discretion of his dean.

**Change in Program of Studies.** — A student is required to have approval of his dean before changing his program of studies. A fee of \$1.00 will be charged for each change in schedule and \$5.00 for change in curriculum after classwork begins, except those made necessary by failure at the final examination period, or as a result of special examinations, or in special cases approved by the Registrar.

A grade of failure will be recorded in the Registrar's Office for a subject dropped on request of the student after the second week of a quarter. Exceptions are made only as authorized by the dean.

A student's dean may make such substitutions as he deems necessary in the student's course of study. The student's load may also be reduced by the dean when circumstances seem to make it advisable.

**Back Work.** — In arranging a student's work for each year the dean will require him to schedule first the back work of the lower class or classes, but



where this would work a serious hardship on the student the dean may make such exceptions as he deems necessary.

**Classification.** — A student will be promoted from one class to the next when he lacks not more than 10 hours of course work specifically required in his curriculum.

A student who has been awarded one baccalaureate degree and pursues another course for a second baccalaureate degree will be classified as an undergraduate student.

Students who for reasons acceptable to the dean do not wish to pursue regular courses either as to load or curriculum, will be admitted as unclassified students.

**Transfer Students.** — If a student transfers from one curriculum to another requiring fewer hours, a year of credit in the former will not carry more than a year of credit in the latter.

If a student transfers from one curriculum to another requiring more hours, the graduation requirements of the new curriculum must be met as far as hours and subject matter are concerned. For students transferring from other institutions, credit will be allowed for ROTC and Physical Education satisfactorily completed on the same basis as if the work were taken at Auburn.

A student who is excused for any reason from any subject will be required to substitute other approved work.

**Auditing Privilege.** — A person who is not matriculated in the university may audit lecture courses or the lecture part of a combined lecture and laboratory course with the approval of the dean and instructor of the subject. The auditing privilege is not regularly permitted in laboratory or combined lecture and laboratory courses; however, in exceptional cases, with the approval of the dean and instructor concerned, persons not matriculated in college may audit such courses upon payment of the auditing and laboratory fees. Auditors register with the dean and registrar and are listed on the class roll but do not participate in classroom discussions, take tests or final examinations, or make reports and may receive no grades or credits. A fee of \$5.00 will be charged for auditing a lecture course. Regularly enrolled students carrying 10 hours or more and members of the faculty may audit lecture courses upon approval of the dean and the instructor concerned without payment of the auditing fee. Graduate students may audit only one course per quarter.

**Student Load.** — The normal quarterly load for a student for any year shall be the maximum number of credit hours prescribed in the curriculum for any quarter of that year.

A student who carries not less than 15 credit hours in a quarter and passes all work carried in that quarter with a grade point quotient of 1.5 or more may schedule an overload not to exceed a total load of 23 quarter credit hours during the next quarter of residence at Auburn University, provided the overload is approved by the student's dean. The overload privilege will not be lost by the student who schedules fewer than 15 credit hours in an intervening quarter or quarters provided he passes all work carried with a minimum grade point quotient of 1.5 in each of the intervening quarters.

**In the Summer Quarter,** students taking courses on the term basis not eligible for the overload will be restricted to the prescribed quarterly load but may take, in one term: (1) one five-hour term course plus ten hours of regular quarter courses; or (2) two five-hour term subjects.



If approved or recommended by the dean, less than the normal load may be taken.

Any freshman or sophomore student, who for any reason is excused from ROTC and Physical Education, when the normal load is seventeen hours, may be permitted to take a load of eighteen hours inasmuch as no two-hour elective courses are available.

A student registering for work in excess of the permitted load will be required to drop the overload during the official Change-in-Registration Period at the beginning of the quarter. If an overload is carried, the requirements for graduation will be increased by the number of credit hours carried in excess of the permitted load.

**Grading System.**—Final grades are assigned as follows: A, Superior; B, Good; C, Acceptable; D, Passing; F, Failure. Grade points are assigned as follows: A—3; B—2; C—1; D—0; F—0. For graduate students see under Graduate School.

A grade of "Incomplete" (IN) is assigned when the quality of work has been of passing grade, but the student has been prevented by illness or other justifiable cause from completing the work required prior to the final examination. If the student is both "Incomplete" in his work and absent from the final examination, the grade of "Absent Examination" shall be assigned. When a grade of "Absent Examination" is reported, the instructor shall indicate whether or not the quality of work has been of passing grade. If passing, a grade of "X" is assigned; if not passing, the grade shall be "XF". Grades of "Incomplete" and "Absent Examination" in required subjects not cleared within one resident quarter shall be repeated. Graduate students shall remove incomplete grades within a reasonable time and will not be allowed to graduate with grades of "Incomplete" on their records. A student absent from a final examination for any reason other than personal illness must obtain an excuse from the Council of Deans in order to take the examination.

A grade of "Withdrawn" (W) will be assigned when the student drops a course with the permission of the dean within the first two weeks of a quarter, or when he is permitted for special reasons to drop the course without penalty after this period. A grade of "Withdrawn Failing" (WF) is assigned to a course dropped with penalty.

If a student is dropped for excessive absences a grade of "FA" is assigned.

**Dean's List.**—A full-time student passing all credit hours of work carried during a quarter and attaining a scholastic record within the upper five per cent of the records attained by the full-time students enrolled in his school may be designated an honor student for that quarter. The honor attained will be recorded on the Dean's List and on the student's permanent record.

**English Requirements.**—All students are expected to maintain a reasonable standard of good usage of English, oral and written. Instructors are directed to insist on correct and accurate speaking and writing in all class work.

Freshmen who show on the placement tests at entrance lack of adequate preparation for Freshman English, must take special preparatory work before being admitted to English 101. No substitution for the Freshman English requirement is permitted.

Credit in Freshman English Composition earned in another institution may

be allowed on transfer, as follows, except that no grade less than "C" will be accepted:

1. If the transferee has less than four and one-half quarter hours credit in Freshman English Composition, no credit is allowed.
2. When the transferee has earned four and one-half quarter hours but less than nine, credit may be allowed for one five-hour course at Auburn, but any hours in excess of five shall not be counted toward graduation.
3. When the transferee has earned nine or more hours and has met the first year English Composition requirement of the other institution, credit may be allowed for both EH 101 and EH 102, provided the minimum of nine hours involves no duplication. A total of twelve hours may be accepted toward the graduation requirement when the twelve hours represent a continuous course sequence at one school.
4. No student failing a Freshman English Composition course at Auburn will be permitted to transfer credit from another school to off-set that "F", but must repeat the course in residence at Auburn.

**Announced Quizzes.** — At least two announced one-hour quizzes shall be held in each subject during the quarter, one in the first half of the quarter and the other in the last half. Other quizzes may be given as deemed necessary by the instructor and department head.

**Examinations and Reports.** — Examinations are classified as (1) final examinations at the end of each quarter and (2) special examinations. Grades in all subjects are reported to the students' parents or guardians at the end of each quarter. Fees for special examinations are as follows: If taken at a regularly scheduled period, \$2.00; out of schedule, \$5.00. For regulations governing special examinations, see "Rules and Regulations for Students" in *The Tiger Cub*.

**Mid-Quarter Deficiencies.** — Deficiencies are reported at the end of the fifth week in each quarter.

**Resignation.** — After the scheduled date for reporting of mid-quarter deficiencies no student may resign from college and escape the penalty of failure. After this date the dean shall contact the student's instructors to determine his scholastic standing at the time of resignation and report such standing to the Registrar.

When a student through illness or physical disability is forced to resign after the mid-quarter and when this condition has been the main factor in causing scholastic deficiencies, discretionary power in determining whether a scholastic penalty is to be assigned shall not rest with the student's dean but with the Council of Deans. See "Rules and Regulations for Students" in *The Tiger Cub* for detailed regulations.

## Extension and Correspondence Courses

The following regulations govern extension and correspondence courses: (1) Credit for undergraduate courses in extension and/or correspondence in the major subject or for requirements for the baccalaureate degree shall not exceed, including transfer credits so earned, ten per cent of the total credit required. (2) Credit hours earned by correspondence or extension will be

counted as any other credit hours earned toward meeting the requirements for graduation, but will not be included in the calculation for continuation-in-residence. Grade points will be assigned to such work toward meeting the requirements for graduation, but in no case will the number of grade points exceed the number of credit hours so earned. (3) Credit for extension and correspondence courses to be taken at Auburn or elsewhere must be approved in advance by the student's dean. (4) No student in residence may enroll for a correspondence course if he can schedule the course or a suitable substitute. (5) No student shall receive credit for correspondence work which, with courses taken in residence, makes a total load exceeding the maximum allowed under college regulations.

In addition to the above, students taking work under the Auburn University Correspondence Study Program are subject also to its regulations as outlined on page 71. For further information, course listing, and application form request a Correspondence Study Bulletin from Director Robert L. Saunders, Correspondence Study Program, School of Education, Auburn University.

**Credit for Work Done in Off-Campus Centers.** — Permission to take work at a university off-campus center is at the discretion of the dean and within the established relationships between the center and the comparable school or college in the parent university of the center. It shall be the responsibility of the student to secure and file with his dean a statement from the center that he may use credit in the desired course toward meeting requirements for the appropriate degree assuming his enrollment at the parent university under comparable classification and circumstances.

## Physical Education

Physical Education is required of all undergraduate students under 26 years of age who are regularly registered for six quarters. Unless otherwise approved by the student's dean, each student who lacks physical education credits must register for physical education in his first and succeeding quarters of residence until all physical education requirements have been met. One quarter hour of credit shall be granted for each quarter. A student who transfers from an institution not requiring physical education will have his physical education requirement reduced by the number of full-time quarters in residence at the former institution. A student who transfers from an institution requiring physical education will have his physical education requirement reduced by the number of quarters completed at the former institution. If a student has not fulfilled the requirement in physical education at the previous institution, he will be required to do so at Auburn University before graduation.

In addition to physical education, it is the aim of the Department of Physical Education to provide opportunities for all students of the college to participate in some form of recreational physical activity. These opportunities are offered through intercollegiate athletics, intramural sports, and the required physical education program. Athletic facilities are: A stadium with cinder track around football field, two additional athletic fields, baseball field, Alumni Gymnasium which contains basketball floor and swimming pool, field house, sports arena, and a series of tennis courts. See page 77 for physical education credit allowed for military service; also see Student Handbook for detailed regulations governing physical education requirements.

## Reserve Officers Training Corps (ROTC)

Three Military Services – Army, Navy, and Air Force are represented by ROTC Units at Auburn. Entering freshmen may enroll in the ROTC of their choice at registration, except that enrollment in Naval ROTC is by competitive examination prior to registration.

Eligibility for enrollment in the Advanced Course of any ROTC will be subject to departmental policies, criteria, and quota limitations.

### Military Training (Basic ROTC)

Successful completion of the Basic Course (Army, Navy, or Air Force ROTC) is a prerequisite for graduation of all male students except as noted below:

a. Students physically disqualified for military service under standards prescribed by the Departments of Army, Navy, and Air Force, and as determined by the College Physician.

b. Veterans with ninety days or more honorable active military service in the U.S. Armed Forces eligible to attend under G.I. Bill of Rights or the Korean War Bill. See also paragraph (4) on page 77.

c. Students more than 23 years of age prior to enrolling at Auburn for the first time are excused from Basic military training.

d. **Transfer students** from institutions not requiring military training will have the basic military requirement reduced by the number of full-time quarters completed in residence at the former institution; provided that military training will not be required if the student has completed five full quarters. A student who transfers from an institution requiring military training will have his basic military requirement reduced by the number of quarters of military training completed at the former institution. A transfer student contemplating advanced ROTC should consult with the head of the service in which he is interested.

e. Students with outstanding records in ROTC training at regularly established Junior ROTC Units, may be excused from the first year Basic Course providing the student applies for excuse and possesses a Certificate of Eligibility from the PMS&T of the Junior ROTC Unit. In no case will a student in this category be excused from more than the first year Basic Course. If so excused, enrollment in the second year Basic Course will be made at the beginning of the Sophomore year. Students with credit in first year basic ROTC pursuing Army ROTC training, who have successfully completed six months active duty for training (ACDUTRA), may be excused from the second year basic course by the PMS&T.

f. Students who are not citizens of the United States.

Students enrolling in college for the first time and transfer students not otherwise excused are required to register for and attend scheduled military classes (Basic Course ROTC) in the first and succeeding quarters of residence until military training requirements have been met.

### Military Service Credit

Applicants who have served in the Armed Forces, upon submitting records on the official separation form, may be allowed credit toward admission or advanced standing for service experience as follows:

(1) Courses completed in military service programs at the college level insofar as they fit into the student's curriculum as required subjects or as electives, as approved by the dean concerned.

(2) Officer candidate and special service training not strictly organized as college courses, and other formal or informal off-duty training. Credit may be allowed toward admission by the Registrar or advanced standing by the dean after review by the Registrar and the dean concerned of the official Separation Record and, as required, after passing with satisfactory scores or grades any field or subject examinations given through the Armed Forces Institute or by the department concerned. Credit for college level General Educational Development Tests is allowed as approved by the dean concerned, except that no credit is allowed in English.

(3) Correspondence courses. Credit may be allowed for college level courses completed by correspondence through the Armed Forces Institute, institutions approved by the Armed Forces Institute, and other accredited institutions as approved by the dean concerned.

(4) Veterans eligible to attend under the G.I. Bill of Rights or the Korean War Bill will be excused from Basic ROTC training and will be allowed college credit as follows:

Commissioned Officers — 24 Quarter Hours

Others — 6 Quarter Hours

Students who have completed a six-month Reserve Training Program (ACDUTRA) resulting in an honorable separation will be given college credit for the First Year ROTC Basic Course. Other students who have completed terms of military service resulting in an honorable separation, will be given college credit as follows:

For 6 to 12 months — First Year ROTC Basic Course (3 quarter hours)

12 months or more — The entire Basic ROTC Course (6 quarter hours)

Any such student who desires to enroll in the Advanced Course offered by the Departments of Air, Military, or Naval Science, shall complete as much of the Basic ROTC Course as may be prescribed as prerequisite by the department concerned.

(5) Students who have had active military service may receive credit in physical education as follows: for less than 6 months, no credit; for 6 months to one year, 1 quarter hour in Basic Physical Education, PE 120; for more than one year, 6 quarter hours.

## Selective Service Deferments

For regulations concerning Selective Service deferment based on enrollment in ROTC programs, see description carried in this catalog under the particular division: Air Science; Military Science; Naval Science.

## Special Regulations

For complete information governing all Special Regulations, see "Rules and Regulations for Students" in the Tiger Cub, the student handbook.

### Class Attendance

Students are expected to attend punctually every recitation, laboratory exercise, and other college duties.



### Discipline

1. Government is administered by the President and the Council of Deans. Each student, by the act of registration, obligates himself to obey all rules and regulations.

2. Students are expected to conduct themselves along the lines of good citizenship by obeying the laws of the United States, the State of Alabama, the City of Auburn, and the University. Enrollment as a student in no way exempts any person from penalty in case of violation of local, state, or national laws.

3. Students are not permitted to participate in public entertainments or contests without previously obtaining permission of University authorities.

4. All publications supported by the Student Activities Fee are subject to supervision by the Board of Student Publications.

### Continuation in Residence Requirements

A student will be suspended for a period of twelve months at the end of any quarter during which he does not earn at least five credit hours. Moreover, a student will be suspended for a period of twelve months if he fails to meet the minimum percentage credit hour and grade point requirements as determined once each year; at the end of each Spring Quarter a student must have earned from all work attempted at Auburn, credit hours and grade points equal at least to the following percentage schedules:

From 1 through 4 quarters of college residence at Auburn and elsewhere: 60%.

From 5 through 7 quarters of college residence at Auburn and elsewhere: 70%.

Beyond 7 quarters of college residence at Auburn and elsewhere: 80%.

A suspended student may reestablish eligibility to return in any succeeding quarter by attending Auburn the Summer Quarter immediately following the date of his suspension and making a 1.0 (C) average on a quarterly load of not less than 15 quarter credits acceptable in his curriculum. A suspended student attempting but failing during a Summer Quarter to reestablish eligibility to continue cannot return before the expiration of his twelve-month suspension period. A suspended student cannot reestablish eligibility or make progress toward an Auburn degree by earning credits elsewhere or via correspondence during his period of suspension.

In determining a student's eligibility for continuation in residence, hours passed and grade points earned will be computed on the basis of credit courses carried, except that a student who passes a remedial course will not be dropped for failure to pass 5 hours.

Credit hours attempted, credit hours passed, and grade points earned in a Summer Quarter by a suspended student will be included in determining the eligibility for continuation in residence at the end of the first Spring Quarter after the student reenters Auburn University. (This does not supersede the minimum five-hour regulation.)

Credit hours and grade points earned by correspondence or extension will not be included in calculations for continuation in residence.

It is the student's responsibility to know his continuation in residence status at all times. If in doubt about his standing, he should consult his dean.

The first time a student classified as a freshman earns less than ten credits



and/or ten grade points, he is required to go to the Student Guidance Service during the first three weeks of his next quarter of residence.

When a regular student's load, by voluntary withdrawal from courses or because of excessive absences, has been reduced to less than 10 quarter hours, at the discretion of the dean he may be recommended for suspension for the remainder of the quarter or for the succeeding quarter.

The Council of Deans reserves the right to drop from the rolls any student at any time for flagrant or continuous neglect of his work or failure to make satisfactory grades.

### **Special Regulations for Students Enrolled in the School of Veterinary Medicine**

Students enrolled in the School of Veterinary Medicine who make a scholastic average less than 1.25 for any two quarters of one academic year may be dropped from the School of Veterinary Medicine for scholastic deficiency. A student who makes a grade of "F" on any course may be required to withdraw from the School of Veterinary Medicine until the beginning of the quarter in which that course is given during the next academic year, and he may be required to repeat certain other courses in the curriculum for that quarter.

Students who are dropped under the above provisions are eligible for admission to other curricula provided they meet the general scholastic requirements for continuance in college. The scholastic penalties incurred while enrolled in the School of Veterinary Medicine will become a part of the student's record.

### **Leave of Absence**

A student whose work is satisfactory — as reported by his instructors — may be granted a leave of absence to represent the college in the following activities: athletics, band, orchestra, glee club, debating or oratorical contests, dramatics club, thesis work, inspection trips, and such other college activities as the President or Council of Deans may approve.

## **Degrees Conferred**

Degrees are conferred as follows:

*School of Agriculture:* Bachelor of Science in Agriculture, Agriculture (Dairy Manufacturing), Agricultural Administration, Agricultural Engineering, Biological Sciences (Botany, Zoology, Entomology, Fisheries Management, Game Management), Forestry, Ornamental Horticulture.

*School of Architecture and The Arts:* Bachelor of Architecture, Arts, Interior Design, Building Construction, Applied Art.

*School of Chemistry:* Bachelor of Science in Chemistry, Chemical Engineering, Laboratory Technology, Medical Technology.

*School of Education:* Bachelor of Science in Education, Agricultural Education, Home Economics Education.

*School of Engineering:* Bachelor of Aeronautical Administration, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Industrial Management, Mechanical Engineering, Engineering Physics, Textile Management, Textile Science.

*School of Home Economics:* Bachelor of Science in Home Economics (Clothing and Textiles, Foods and Nutrition, Home Management and Family Economics, Family Life and Early Childhood Education), and Bachelor of Science in Nursing.

*School of Pharmacy:* Bachelor of Science in Pharmacy.

*School of Science and Literature:* Bachelor of Arts, Bachelor of Science, Bachelor of Science in Business Administration.

*School of Veterinary Medicine:* Doctor of Veterinary Medicine.

*School of Graduate Studies:* For graduate degrees see "School of Graduate Studies" in this catalog.

### Degree Requirements

To qualify for graduation, a student must complete the courses and hours specifically required and accepted for his curriculum with a grade point average of 1.0 (C). A student who transfers from another institution must earn grade points equal in number to the additional hours required for completion of the curriculum. If courses by correspondence and extension are accepted, the number of grade points allowed will not exceed the number of credit hours so completed.

Not more than 10 quarter hours of the final year's work may be obtained through extension or correspondence courses, or both, unless the student has been in residence previously for one full session of 36 weeks, in which case credit will be allowed for 18 quarter hours in extension or correspondence, or both. All credit hours earned by correspondence or extension will be counted as any other credit hours earned toward meeting graduation requirements but will not be included in the calculation for continuation in residence.

Degrees are conferred at Commencement Exercises held at the close of each quarter. A degree will not be conferred in absentia without official permission.

The graduation fee of \$10.00 must be paid at the beginning of the quarter of graduation.

No student will be issued a diploma or statement of credits if he is in default on any payment due the institution or any school or division thereof.

**Thesis.** — A thesis on a subject related to the course of study may be required of each applicant for a bachelor's degree. In lieu of a thesis, a candidate may be permitted to report on special laboratory or research work in approved subjects. For graduate thesis see under "Graduate School."

**Graduation Honors.** — Students completing graduation requirements with exceptionally high scholastic records and who have completed at least nine quarters of work in residence at Auburn University are graduated with distinction. The distinction attained will be recorded on the student's diploma and placed on his permanent record.

A transfer student who has completed at least nine quarters of work in residence at Auburn University is eligible for graduation honors if he meets both of the following requirements: (1) his grade point quotient on all work taken in residence at Auburn University meets the minimum requirements for the honor and (2) his over-all grade point quotient on all work taken in residence at Auburn University and elsewhere meets the minimum requirements for the honor.

A transfer student may not be graduated with a degree of distinction higher than that for which he would be eligible on the basis of his Auburn University record, and where his over-all average is lower than his Auburn University record, the degree of distinction earned will be determined by his over-all grade point quotient.

A student whose record at Auburn University fails to meet the requirements established for one of the degrees of distinction may not be graduated with honors regardless of his record elsewhere.

In determining graduation honors, all work attempted in residence except remedial subjects will be used in the calculations. Where transfer credits are considered, calculations will be based on the grade point values in use at Auburn University.

The grades of distinction and requirements are: With Honor, a grade point quotient of at least 2.4. With High Honor, a grade point quotient of at least 2.6; and With Highest Honor, a grade point quotient of at least 2.8.

**Residence Requirements.**—To obtain a bachelor's degree a student must take the final year's work at Auburn University. This regulation may be waived, at the discretion of the dean, for men who entered military service from Auburn University.

A minimum of 45 quarter hours and honor points and 36 weeks of residence is required for a second baccalaureate degree by a graduate of Auburn University. The minimum requirements for a second baccalaureate degree for a graduate of another institution are completion of the hours required in the final year of the curriculum with an equal number of honor points and 36 weeks of residence at this institution. A student must be enrolled in a curriculum at least nine months immediately prior to graduation. A minimum of 45 quarter hours and 36 weeks of residence is required for a master's degree.

## Graduate Placement Service

A Graduate Placement Office, established by the Alabama Department of Industrial Relations, is jointly operated by that department and Auburn University to assist graduates in obtaining employment in their chosen professions following graduation. This office brings numerous representatives from industrial and commercial concerns, and governmental agencies to the campus each quarter for personal conferences with students. Students who desire information and assistance should confer with the director in Room 213, Samford Hall.

## FEES AND EXPENSES

Auburn University reserves the right to deny admission to or drop any student who does not meet his financial obligations to the institution.

Fees are payable in advance at the beginning of each quarter registration as follows:

### Basic Quarterly Charges for Regular Undergraduate Students

	College Fee	Student Activities Fee	Total
All curricula except Veterinary Medicine.....	\$57.50	\$8.50	\$66.00
Veterinary Medicine.....	62.50	8.50	71.00

The University Fee is used to meet part of the cost of instruction, physical training and development, the cost of necessary laboratory materials and supplies for student's use, maintenance and operation of the physical plant, the Library and the Student Health Service.

The Student Activities Fee supports affairs on the campus, namely, inter-collegiate athletics, Auburn band, debating, dramatic arts, glee clubs, Glome-

rata, intramural sports, Plainsman, religious life, social affairs, student government, and Student Union Building Fund. This fee includes 50 cents which will be held in reserve to cover unnecessary damage to college property by students. Any unused portion of this amount will revert to the credit of the activities listed in this paragraph.

### Other Fees and Charges

- (1) **Field Training Course in Home Economics** one-half of regular college and non-residence fees. (Student Activities Fee optional. If elected, full fee charged.)  
Charged for: Retail Training — HE 335
- (2) **Handling Charges** \$1.00
  - (a) For registration fees billed home
  - (b) Unhonored checks returned from bank
  - (c) For delayed payment of registration fees  
(Arrangements for paying registration fees and charges should be worked out in advance with College Bursar.)
- (3) **Service Charge for Late Registration** 2.00 to 5.00  
All students in any quarter who are scheduled to pre-register for the succeeding quarter must do so, clearing their fees on the dates set for payment of fees. Failure to do so will cause a \$2.00 service charge to be made to such students up to and including regular mass registration dates for the succeeding quarter, regardless of student's reason for failure to make payment on time. Any undergraduate student taking ten hours or more on quarterly basis will be charged a \$5.00 service charge for registration or fee payment after classes begin. Graduate and part-time students have one week after classes begin, before late fees apply. This charge applies to registration fees only.
- (4) **Non-Resident Fee** 90.00  
Non-resident students with the exception of sons and daughters of ministers are required to pay a tuition fee each quarter.
- (5) **Laundry and Dry Cleaning (optional)** 18.00  
This fee is optional for both men and women students. Refunds, where deemed advisable, may be made during the first two weeks of the quarter. Thereafter, refunds will be made only in the case of resignation of the student. This service is furnished by Young's Laundry of Auburn and includes laundry, pressing, and dry cleaning.
- (6) **R.O.T.C. Uniform and Equipment Deposit (refundable)** 30.00  
All students, both Basic and Advanced, are required to deposit the sum of \$30.00 with the Bursar of the University, prior to enrollment in R.O.T.C. They are then furnished a uniform in good condition and other necessary supplies through the R.O.T.C. Supply Office. Upon completion of the R.O.T.C. course of instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student, less \$1.50 per quarter withheld by the Bursar of the University to cover the cost of cleaning

and repair of uniforms, when applicable and to support R.O.T.C. activities as follows: scholarship and marksmanship awards; special apparel and equipment for competitive drill teams and rifle teams; approved travel for drill teams and rifle teams representing Auburn University R.O.T.C.; uniforms for sponsors; the official annual Military Ball in an amount not to exceed \$.40 per cadet enrolled that quarter. This charge is subject to change in accordance with demands of the Army, Navy and Air Force training programs.

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| (7) Chemistry Breakage Card or Pharmacy Breakage (refundable) each   | 2.00             |
| (8) Change in Course Fee<br>This charge is made for each separate change with dean's permission after classes begin.   | 1.00             |
| (9) Change in Curriculum Fee   | 5.00             |
| (10) Auditing Fee<br>Any student who pays less than full-time fees must pay this fee for auditing a subject.   | Per subject 5.00 |
| (11) Re-examination Fee each   | 2.00             |
| (12) Special Examination Fee or Equivalency Examination each   | 5.00             |
| (13) Pilot and Private Instruction Courses Maximum (See No. 22 next page.) For description of these courses see section on Aeronautical Engineering.   |                  |
| (14) Transcript Fee  | 1.00             |
| (15) Graduation Fee<br>This fee is payable at beginning of the quarter in which the student is a candidate for a degree.<br>Duplicate Diploma Fee  | 10.00<br>5.00    |
| (16) Correspondence Study Course Fees (each course)<br>for the first credit hour and \$5.00 for each additional credit hour.   | 10.00            |
| (17) Part-time Undergraduates<br>Additional hours, total not to exceed 9 hours, at \$5.00. No non-resident fee charged. Student Activities Fee optional. If more than 9 quarter hours carried, full undergraduate fees are payable. Six-week courses of 5 or more quarter hours call for payment of one-half regular undergraduate fees for a quarter. | First hour 10.00 |
| (18) Graduate Students<br>Additional hours \$5.00 each per quarter. Separate registrations for six-week term cost \$10.00 for first hour and \$5.00 per hour for each additional hour. Student Activity Fee optional, no non-resident fee charged. Graduate students registering for 10 hours or more will be entitled to student health service.      | First hour 10.00 |
| (19) Thesis Only — non-credit course   | 5.00             |
| (20) Thesis Binding Fee<br>Number of copies required ranges from three to five.  | Per copy 2.50    |

**(21) Music Fees**

Applied Music — one ½ hour lesson a week	20.00
Applied Music — two ½ hours lessons a week	30.00
Applied Fundamentals of Music (Class instruction in piano or violin)	5.00
Practice Fee — per quarter — one hour per day	3.00
two hours per day	5.00
Instrumental Rental Fee — per quarter	3.00

**(22) Special Pilot Training Fees** — The special fees for the pilot training courses are:

AE 306 Private Pilot Training — Flight, maximum	423.18
AE 406 Commercial Pilot Training — Flight, maximum	2,100.00
AE 423 Flight Instructor Training, maximum	497.77

(Subject to change without notice.)

**(23) Microscope Purchase**

It is required that students entering Veterinary Medicine own a microscope prior to admission. (See section on Veterinary Medicine.)

**(24) Registration Cancelled and Fees Refunded**

If a student pre-registers for the next quarter, then withdraws prior to the opening of the quarter, all fees are refunded. If a student resigns within the first two weeks after classes begin, all fees, less charges, will be refunded except the sum of \$7.50 which will be retained as a registration fee, and except the sum of \$5.00 paid as student health fee if the student has participated in any part of the student health program including the entrance physical examination. If a student remains in school longer than two weeks after classes begin, no refund will be made of any fees applying for that quarter except on resignations caused by personal illness or call into military service.

**(25) Room and Board** — All women students, except those granted special permission by the Dean of Women, are required to live in dormitories and take their meals at the Women's Dining Halls. Residents in the dormitories for men may elect to take their meals in the dormitory dining halls, in the school cafeterias, private boarding houses, or other places of their choice.

Rate: Room and Board, per quarter (add sales tax for board) 165.00  
For further information, see below.

**(26) Nursery School and Kindergarten**

Main Nursery School (per quarter)	25.00
Auxiliary Nursery School (per quarter)	12.00
Kindergarten (per quarter)	15.00
For registration information, contact Chairman, Nursery School and Kindergarten.	

**(27) Internship Fee — Veterinary Medicine**

(off campus)	3.00
(on campus)	12.50

**(28) Doctoral Dissertation microfilming fee** 25.00



### Room Reservations

1. Women students wishing to reserve a room in university housing should send a deposit of \$10.00 to Head of Women's Housing. Reservation for the following Winter, Spring, Summer and Fall Quarters will be accepted on or after October 1 of each year.

2. Inquiries regarding rooms for men students should be addressed to Coordinator of Men's Housing. The inquirer will be furnished an application for housing. This application, with a \$10.00 room deposit, should be returned to the person designated on the application. Room deposits will assure the applicant that he has a room and will be held to cover the loss and damage to dormitory property. The deposit is not applicable to the room rent.

3. Refund of room reservation fee, when due, will be mailed each resident. Refunds will be made only: (1) when the room reservation is canceled no less than 14 days prior to the opening of the quarter for which the room has been reserved, except that all applications for refund or room deposit fee for the Fall Quarter must be received not later than August 15, otherwise no refund will be made; (2) when the room is vacated at the end of a quarter; (3) when the resident enters military service during the quarter.

### Room and Board Charges

Room and board in all women's dormitories is \$165.00 per school quarter. Room and board for men students in Magnolia Dormitory is \$165.00 per school quarter. The Magnolia Dormitories resident may elect to take meals for only 5 days a week at a cost of \$95.00 for the quarter, or he may elect to have his meals outside of the dormitories in which case he will pay room rent only, \$53.00 for the quarter. All Board charges are subject to payment of applicable sales taxes.

Students who, at the beginning of the quarter, elect to have meals in Magnolia Dining Hall may withdraw from such arrangements within the first two weeks of the quarter and receive a refund of amounts paid, **less a minimum charge for board for two weeks plus a \$7.50 surrender charge upon return of meal tickets issued.** No change in board arrangements may be made by dormitory residents after the two-week period has expired. Students withdrawing from the dormitory or resigning from school after the allowable two-week period will be charged on a daily basis plus the \$7.50 surrender charge.

Room and board bills are to be paid at the office in each of the dormitory areas. Accounts not cleared on or before the fifth day of the current month or sixth day of the term in which the office is open for business, whichever date comes earlier, are subject to a late fee of \$1.00 per day to a maximum of \$5.00. All room and board accounts are due and payable in full at the beginning of each quarter. However, where deemed necessary, arrangements may be made at the Cashier's Office in the student's dormitory area for payment of the amount in not more than three installments. Such payments must be made at the beginning of the period they are intended to cover. For information in advance concerning part payments, write the Housing Manager in the Men's Dormitories or Women's Dormitories, as applicable.

Room assignments will be valid only through Friday, 5:00 P.M. after the Sunday on which the dormitories officially open, unless the room has been paid for in advance or other satisfactory arrangements have been made before that date.

Authorized refunds of room rent will be made on a calendar week basis and board charges on daily basis when students leave the University dormitor-

ies and dining halls. A minimum charge of  $\frac{1}{3}$  of the quarterly room rent rate will be charged any student vacating rooms after school opens, with refunds being made not to exceed  $\frac{2}{3}$  of the quarter (12 weeks) rate. A calendar week begins on Sunday. Students vacating dormitory rooms without proper notice to the dormitory office concerned will be charged rent on the room until such notice has been properly filed with the office that the room has been vacated.

Although every effort will be made to maintain the present room and board prices, if food prices advance abnormally, it may be found necessary to increase these costs.

For men students living in private dormitories, cooperative boarding houses, private homes, and fraternity houses, rooms without meals range from \$45.00 to \$60.00 for each school quarter. The meals in boarding houses near the campus are about \$45.00 a month.

## LIVING ACCOMMODATIONS

The over-all dormitory program is operated on the basis that a university education is not confined to class-room activities. A true university education includes the total experience of living within an educational environment. A schedule of activities, student government, and a diversified program which the residents help plan and in which they participate are important parts of university education.

In all university dormitories and apartments, careful precautionary measures are taken to assure the security of the residents and their personal property. However, the University does not insure personal property of the residents and is not responsible for damage to or loss of personal property of occupants of university-owned facilities.

### Men Students

Auburn University provides dormitory accommodations for approximately 1325 men students. The men's dormitories are in two areas, Magnolia Dormitories and Graves Centre Cottages.

Magnolia Dormitories, housing 1113 students, is a three-building unit in the northwestern part of the campus. All units are of brick, hollow-tile, and steel construction and together form one of the best-equipped resident areas for college men in the South. Magnolia Hall was completed in 1948, Bullard Hall was completed in 1952, and Noble Hall was opened in January of 1957. Each of these buildings is connected with another to form a harmonious architectural and living pattern. All buildings are arranged into divisions of approximately 40 students. These residents sharing the experience of living together form the basis of the dormitory program. There is a dormitory counselor for each division. The dormitory counselors are assisted by graduate counselors under the direction of the Resident Counselor and the Dormitory Manager in carrying out the dormitory program.

In the Magnolia Dormitories two students share a room. Each student has his own single bed, closet, and study table. The dormitory contains well-appointed lounge and recreational areas, a post-office, a snack bar, and other facilities to make a complete living unit. The Housemothers, the Resident Counselor, and the Family in Residence have their apartments in the buildings.

In the Bibb Graves Centre there are 26 cottages housing men students. The cottages are located in a landscaped area around an amphitheatre. Varsity

athletes are housed in several of the units. A staff member with his family lives in one of the cottages. Eight students are housed in each of the buildings. Each building contains two separate living units with sleeping and study rooms with a bath on each side of the cottage. Each student has his own single bed and study table.

In addition to the dormitory housing accommodations for men students, housing may be obtained in private dormitories and homes in Auburn, and in the fraternity houses. The Coordinator of Men's Housing on the ground floor of Langdon Hall maintains for the convenience of students a file of off-campus accommodations for men.

### Married Students

Auburn University operates two housing projects for married students:

- A. **Forest Hills Apartments** — 240 units, 80 two-bedroom and 160 one-bedroom apartments, furnished, completed September 1959. Furnishings include all-electric kitchen, completely furnished living room and bedroom, spacious closets, ample cabinets, all-tile bath with shower-tub combination, inner-spring mattresses, steam heat, TV outlet, etc.
- B. **Graves Centre Apartments** — 107 units, one-, two-, and three-bedrooms, temporary, partly furnished.

Deposits are accepted for both projects from prospective students who have been accepted by the Registrar. For additional information write: Housing Manager, 901 West Thach Avenue, Auburn, Alabama.

The Student Guidance Service, First Floor, Langdon Hall, maintains a registry of privately owned apartments and will be glad to assist incoming students in locating suitable housing. All arrangements should be made before the student brings his family to Auburn.

### Women Students

Housing for approximately 1300 women is furnished in the Women's Dormitories. The dormitory group consists of the following:

No.	Name	No.	Name
I	Elizabeth Harper Hall	VIII	Ella Lupton Hall
II	Kate Conway Broun Hall	IX	Helen Keller Hall
III	Willie Little Hall	X	Marie Bankhead Owen Hall
IV	Kate Teague Hall	XI	Annie White Mell Hall
V	Letitia Dowdell Hall	XII	Dana King Gatchell Hall
VI	Allie Glenn Hall		Alumni Hall
VII	Mary Lane Hall		Auburn Hall

Harper, Broun, Little, and Teague Halls, Social Center and the Women's Dining Hall form a Quadrangle in the foreground of the dormitory area. The Dining Hall faces the other dormitories located to the south of the Quadrangle. Each of the dormitories, I through X, houses approximately 100 girls. A Head Resident, who has a suite of rooms in the building, is in charge of each dormitory. The Head Resident serves as counselor to the students as well as hostess in the dormitory. Lounge space is furnished in each building. The bedrooms in dormitories I through X are arranged in suites, consisting of two double rooms, connected by a tile bathroom. Each room accommodates two girls; however, three may be assigned to a room on a temporary basis when the

dormitories are unusually crowded. The rooms are equipped with twin beds, a double desk with two desk chairs, a reading lamp, a bedside table, an easy chair, and a dresser and chest. All students provide their own bed linens and any other items they may wish to use in making their rooms more attractive.

Dormitories XI and XII are smaller dormitories, housing approximately 50 girls each. These dormitories have community baths, located at each end of the hallways. There is a Head Resident in each of these dormitories, and the girls eat in the Women's Dining Hall. Dormitories XI and XII are located on Mell Street, adjacent to the larger dormitories.

Alumni Hall is located on South College Street. This unit houses approximately 100 girls with the Head Resident's suite located on the second floor. This dormitory has its own dining hall, located in the basement of the building. The furnishings in Alumni Hall are the same as in the other dormitories. The rooms are not in suites. There are community baths located at each end of the hallways.

Auburn Hall is one of our larger dormitories, housing approximately 185 girls. This dormitory has community baths located conveniently for the girls. There is a Head Resident on duty at all times. The girls living in this dormitory take their meals in Alumni Dining Hall. Auburn Hall is located on East Thach Avenue, approximately one and one-half blocks from Alumni Hall.

Susan Smith Cottage, on South College Street, is a cooperative house accommodating twenty-six girls who do all the planning and preparation of their meals as well as their own house work. This cooperative plan for management greatly reduces living expenses. To live in Susan Smith Cottage a girl must have a good scholarship and good citizenship record.

Social Center is a southern colonial building in which are located the offices of the Dean of Women, the Assistant Dean of Women, the Head of Women's Housing, and the Dormitory Supervisor. Here, also, is a cashier's office where women students pay room and board. The post office for Dormitories I through XII is located in this building. In addition, there are two large living rooms, a dining room, and a kitchen which may be used by student groups.

Residence in the dormitories is compulsory for all women students unless special permission given by the Dean of Women approves their living elsewhere. Students will be subject to regulations of the University and the Women's Student Government Association at all times.

All students residing in the dormitories must eat in the college dining halls. Meals are served here under the supervision of trained dietitians. Costs for special diets will be borne by the student.

No room reservation in the women's dormitories is binding until a fee of \$10.00 has been received. This should be sent to the Head of Women's Housing. For room and board charges see page 85.

## Financial Aid at Auburn

A number of scholarship and loan funds to aid worthy students in meeting their university expenses have been provided by civic organizations, business concerns, and individuals. A special bulletin giving sources of financial aid may be obtained by writing to Dean J. E. Greene, Chairman, Committee on Scholarships.

Sources of aid not available through the Scholarship Committee are as follows:

**Federal and State Vocational Rehabilitation Aid** — Students with physical handicaps may obtain grants-in-aid covering university fees, books, supplies, and, in some cases, general maintenance through the Vocational Rehabilitation Service. Federal and state appropriations support this service. For information and application blanks, contact Mr. Frank Jenkins, District Supervisor, Vocational Rehabilitation Service, 115 Thach Hall, Auburn, Alabama.

**Graduate School Fellowships and Assistantships** — To promote scholarship and research among graduate students, a number of teaching fellowships, graduate assistantships, and research fellowships and assistantships carrying substantial stipends are available. Apply not later than March 15. Contact the Dean of the Graduate School for information and application blanks.

**U. S. Navy** — The U. S. Navy, under the Holloway Plan, offers to a number of students tuition and fees, plus an allowance for expenses, for four years. Recipients are determined after nation-wide examinations held each December. They enter college as Midshipmen, USNR, under the Regular NROTC program. In return for this aid, they must complete four years of Naval Science, make all required summer practice cruises, and after commissioning as Ensigns, U. S. Navy, or Second Lieutenants, U. S. Marine Corps, they serve four years on active duty at the discretion of the Secretary of the Navy. They may remain as career officers in the regular Navy or Marine Corps. For further information, see section on the School of Naval Science.

## Cooperative Education Program

Students in certain curricula who qualify are offered an opportunity to participate in a plan of education known as the Cooperative Education Program. It offers a student a chance to add meaning and purpose to his theoretical classroom instruction by combining it with practical experience in a business or industrial job assignment.

The co-op student alternates between school and industry on a quarterly basis and while he is in school takes his courses as a regular student. His degree requirements are the same as regular students. The program is offered to students in aeronautical, chemical, civil, electrical, and mechanical engineering; engineering physics; aeronautical administration; building construction; business administration; industrial management; textile management and textile science; and mathematics. For further information, write C. E. Gearing, Director of Engineering Extension.

## Employment Service

The Nonacademic Personnel Office maintains a student employment service to assist students in obtaining employment to defray a portion of their educational expenses. Employment on the campus on a part-time basis is provided for students through the following fields: clerical, library, laboratory, agricultural, food service, and others.

Off-campus jobs also are frequently available and these calls are received throughout the year and usually require immediate placement. Students interested in part-time employment should apply at the Nonacademic Personnel Office, Temporary Building 10-A, after completing registration.

The Nonacademic Personnel Office also assists student wives and others in locating employment. Applicants should contact that office for the necessary application forms and additional information.



## STUDENT LIFE AND ACTIVITIES

### Counseling Service

The University endeavors to maintain counseling and guidance services for its students. Each academic dean, either personally or through appointed assistants, guides each student in his academic problems, especially in arranging schedules, maintaining residence requirements, and satisfying subject matter degree requirements. The Registrar and his assistants advise the student regarding hours required for graduation. In addition counseling services of other sorts are available. The Director of Student Affairs and the Dean of Women with their respective staffs are especially concerned with any student problem, educational, vocational, or personal.

The Student Guidance Service is located on the ground floor of Langdon Hall. Through this service the University offers aid to students in personal, educational, and vocational areas. The service is staffed with experienced and trained counselors and is under the overall administration of the Department of Student Affairs. Students come to the Guidance Service on their own initiative and are referred by members of the faculty. In the Guidance Service there is a library of occupational information which many students find helpful.

A testing program is a part of the Student Guidance Service and is available at the student's request. High school students seeking aid in planning for training beyond high school are also invited to use, without obligation, the facilities of the Guidance Service.

It is the duty of each staff and faculty member to maintain a close personal relationship with students. Each teacher welcomes an opportunity to aid students with academic and personal problems whether the contact be formal or informal in nature.

### Student Health Service

The Student Health Service of Auburn University renders the following services: (1) out-patient medical and surgical service by staff doctors only; (2) hospitalization at the University Infirmary; (3) local ambulance service; (4) medical supervision of the physical education and athletic programs; (5) health education; and (6) campus sanitation. These services are administered by the medical staff of the Health Service.

The University owns and operates a 65-bed infirmary equipped with a modern clinical laboratory and X-ray facilities. The Health Service performs a complete physical examination of all entering students, which includes a photoroentgenogram. Working in conjunction with the State Health Department annual chest X-rays are given to students, faculty members and employees of the school. After physical evaluation of each student, recommendations are made to the student, to the dean of his respective school, to the physical education department, and to the military department.

Before being approved for admission evidence of immunization for Tetanus, Typhoid, and Smallpox must be filed on the **Immunization Record Form** furnished by the Registrar's Office.

No major surgery is performed in the Infirmary. Elective surgery should be performed in the student's home town, or by referral to a specialist during vacation periods or to a local surgeon. Emergency surgical operations are the



responsibility of the student. Students who are in need of emergency operations and those having severe multiple or compound fractures will be referred for treatment and the expense will be a responsibility of the student. The University has available a surgical consultant who may be called when needed. The expense will be charged to the student requiring such consultation.

The Student Health Service is available to all regularly enrolled full-time students of the institution. Medical service is not provided by the University for the families of married students, but a list of local physicians will be made available by the Student Health Service upon request.

The Out-Patient Clinic is open from 8:00 a.m. to 11:30 a.m. and 1:00 p.m. to 4:00 p.m. each week day, Monday through Friday. Clinic hours are from 8:00 a.m. to 11:30 a.m. on Saturday, and 8:30 a.m. to 9:30 a.m. each Sunday. Emergency treatment is available 24 hours daily. Visiting hours at the Infirmary are from 10:00 a.m. to 11:30 a.m., 3:00 p.m. to 4:30 p.m. and 7:00 p.m. to 8:00 p.m. each day. Only two visitors per patient are allowed to call simultaneously.

University physicians do not make calls outside of the Infirmary or attempt to treat students in their rooms. Students who are too ill to come to the Infirmary will be furnished with local ambulance service. Parents will be notified by the college physician if a student is believed to be seriously ill.

Each student is entitled to 15 days free hospitalization at the University Infirmary during each school year. This includes professional services of the medical staff of the Student Health Service, general floor nursing care, ordinary medications, room and board, linen, and routine laboratory and X-ray procedures.

The Student Health Fee does not include surgery, consultation, special X-rays, special medications, or special nurses. A charge is made for these, but only an amount sufficient to cover the cost.

The services of local physicians are available at the student's expense either at their places of residence or when the student is properly admitted to the University Infirmary.

The Student Health Service is not available to students during the following vacation periods: Christmas holidays and the periods between the close of the Summer Quarter and the opening of the Fall Quarter.

During epidemics, the staff of the Student Health Service will make every possible effort to care for ill students at the Infirmary, but if our staff and facilities are inadequate, we will not assume responsibility for the payment of services rendered by outside doctors or other hospitals.

## Automobile Registration

Registration of four-wheel motor vehicles will be a part of the academic registration procedure at the beginning of the Fall Quarter each year for all undergraduate and graduate students, and will be part of the registration procedure at the beginning of the Winter, Spring, and Summer Quarters for all students not already registered. Students who bring unregistered cars on the campus after any registration period for longer than a weekend must register them at the University Security Office, Department of Buildings and Grounds, within 48 hours after arrival on the campus. Faculty and Staff members shall register their four-wheel vehicles at the University Security Office. Failure to register a four-wheel vehicle, to use the proper decal and to park in the proper zone will constitute a violation and subject the violator to

certain penalties. For specific information regarding designated parking areas, traffic regulations and controls, violations and penalties, secure a copy of the "Parking and Traffic Regulations" from the University Security Office.

## Lecture and Concert Series

The University, through the Lecture and Concert Committee, composed of faculty and student members, brings to the campus each year a wide variety of lectures, concerts and other programs of cultural value. This project is financed through the student activities fee, and all students are admitted without charge upon the presentation of their student identification card.

## Intramural Sports

The Intramural Sports Department offers to students, both men and women, many opportunities to participate in competitive team, and individual sports, and recreational activities. Healthful sports, good sportsmanship, and friendly competition are stressed. All students are urged to participate in the program which is entirely voluntary and largely student supported and supervised.

Regular tournaments are offered in seasonal team and individual sports.

**Fall Quarter.** — Touch football, swimming, volleyball.

**Winter Quarter.** — Basketball, bowling, table tennis.

**Spring Quarter.** — Badminton, golf, softball, tennis, track.

**Summer Quarter.** — Softball, tennis, golf, swimming.

**Check-out Service** — Intramural Sports for Men also operates a check-out service in the basement of the Auburn Union Building. Any student may check out athletic equipment either on a 24-hour basis or over weekends.

## Honorary Organizations

Agricultural Economics Club  
Alpha Beta Alpha (4-H members)  
Alpha Epsilon Delta (pre-medical)  
Alpha Lambda Delta (freshman scholastic honorary for women)  
Alpha Zeta (agriculture)  
Caissons Club (Army ROTC artillery corps)  
Chi Epsilon (civil engineering)  
Delta Omicron (music honorary for women)  
Delta Sigma Pi (business administration)  
Eta Kappa Nu (electrical engineering)  
Kappa Delta Pi (education)  
Kappa Epsilon (women in pharmacy)  
Omicron Nu (home economics)  
Pershing Rifles (AFROTC honorary corps)  
Phi Delta Kappa (men's education)  
Phi Eta Sigma (freshmen scholastic honorary for men)

Phi Kappa Phi (national senior scholastic honorary)  
Phi Lambda Upsilon (chemistry)  
Phi Mu Alpha (men students in music)  
Phi Psi (textiles)  
Phi Zeta (veterinary medicine)  
Pi Mu Epsilon (mathematics)  
Pi Sigma Epsilon (salesmanship & marketing)  
Pi Tau Pi Sigma (Signal Corps)  
Pi Tau Sigma (mechanical & aeronautical engineering)  
Rho Chi (pharmacy)  
Scabbard and Blade (ROTC)  
Scarab (architecture)  
Sigma Pi Sigma (national physics honor society)  
Steerage (NROTC)  
Tau Beta Pi (engineering)  
Tau Kappa Alpha (national forensic honorary)  
Xi Sigma Pi (forestry)

## Campus Leadership and Service Organizations

- "A" Club — Varsity letter in football, baseball, basketball, or track.
- Alpha Phi Omega — National service fraternity for men students previously connected with the Boy Scout movement.
- Auburn Veterans Association — Service organization open to veteran students.
- Blue Key — National honor society for men.
- Circle "K" — Service Club for men.
- Cwens — National honor society for sophomore women.
- Mortar Board — National honor society for senior women.
- Omicron Delta Kappa — National honor society for senior men.
- Spades — Local honor society of ten most outstanding senior men.
- Squires — Local honor society for sophomore men.
- Towers — Women's independent organization.

## Departmental and Professional Organizations

- |   |  |
|---|--|
| Agricultural Council                          | Block and Bridle Club (Animal Husbandry)       |
| Agronomy Club                                 | Builders Guild (Building Construction)         |
| American Chemical Society                     | Dairy Science Club                             |
| American Institute of Aeronautical Science    | Dana King Gatchell Home                        |
| American Institute of Architects              | Economics Club                                 |
| American Institute of Chemical Engineers      | Dolphin Club (women swimmers)                  |
| American Institute of Electrical Engineers    | Forestry Club                                  |
| American Pharmaceutical Association           | Future Farmers of America                      |
| American Rocket Society                       | Horticulture Forum                             |
| American Society of Agricultural Engineers    | Industrial Design Forum                        |
| American Society of Civil Engineers           | Institute of Radio Engineering                 |
| American Society of Mechanical Engineers      | International Relations Club                   |
| Angel Flight                                  | Junior American Veterinary Medical Association |
| Auburn Camera Club                            | Latin-American Club                            |
| Auburn Debate Council                         | Omicron Kappa Pi (Decor Club)                  |
| Auburn Lab Tech Club                          | Phi Delta Chi (Pharmacy)                       |
| Auburn Players (Dramatics Club)               | Physical Education Club                        |
| Auburn Radio Club                             | Poultry Club                                   |
| Auburn Speleological Society                  | Pre-Veterinary Medical Association             |
| Auburn Student Education Association          | Skin Diving Club (Tiger Sharks)                |
| Arnold Air Society                            | Society of Advancement of Management           |
| Art Guild (Advertisement & Industrial Design) | Society of American Military Engineers         |
|   | Spiked Shoes                                   |
|   | Track and Saber                                |
|   | Women's Recreation Association                 |

### Student Wives Organizations

- Army Cadet Wives Club
- Auburn T-Square Widows (Architecture)
- Auxiliary of Civil Engineers
- Dames Club
- Junior AVMA Auxiliary

Keystones (Building Construction)  
Pharmacy Wives Club  
Wives of Auburn Engineers

Wives of Industrial Management Students

### Organizations Temporarily Approved

(Serving minimum one year probation period prior to full recognition.)

Auburn Historical Society

Psi Club (Psychology)

Auburn Literary Society

Semper Fidelis Society (Naval ROTC)

Phi Beta Lambda (Business Education)

Sigma Tau Delta (English)

Philosophy Club

Soccer Club

## Social Fraternities and Sororities

The following national social fraternities have established chapters at Auburn:

Alpha Gamma Rho

Phi Kappa Tau

Alpha Psi

Pi Kappa Alpha

Alpha Tau Omega

Pi Kappa Phi

Delta Chi

Sigma Alpha Epsilon

Delta Sigma Phi

Sigma Chi

Delta Tau Delta

Sigma Nu

Kappa Alpha Order

Sigma Phi Epsilon

Kappa Sigma

Sigma Pi

Lambda Chi Alpha

Tau Kappa Epsilon

Omega Tau Sigma

Theta Chi

Phi Delta Theta

Theta Xi

The following national social fraternities have established colonies at Auburn: Beta Theta Pi (Beta Pi Colony) and Delta Upsilon (Alpha Delta Upsilon Colony).

The Interfraternity Council – regulates the relationships between the member fraternities.

The following national social sororities maintain chapters at Auburn:

Alpha Delta Pi

Delta Delta Delta

Phi Mu

Alpha Gamma Delta

Delta Zeta

Pi Beta Phi

Alpha Omicron Pi

Kappa Alpha Theta

Zeta Tau Alpha

Chi Omega

Kappa Delta

The Pan-Hellenic Council – regulates the relationships of the sororities.

## Student Government

### The Student Body

The Student Body officers are elected by the students to work for the betterment of the students and the university. There are three branches of the Student Body: the President and his Cabinet; the Judiciary; and the Senate.

### Women's Student Government Association

All women students are members of the Women's Student Government Association. The W.S.G.A. plans and carries out a well-organized program for women students through its elected officers and its Legislative and Judiciary Councils.

## Student Publications

The Auburn Critique — literary magazine, published monthly; sold through subscriptions.

The Auburn Engineer — published monthly for and by students in Engineering.

The Auburn Forester — published annually by students of the department of Forestry.

The Auburn Veterinarian — booklet published quarterly for and by students in Veterinary Medicine.

The Glomerata — student annual publication; production costs covered by Student Activities Fee and advertising.

The Helm — a monthly paper published by NROTC students.

The Plainsman — a weekly paper published by students of the institution; production costs covered by Student Activities Fee and advertising.

The Tiger Cub — annual student handbook; production costs covered by Student Activities Fee and advertising.

## The Auburn Union

The Auburn Union is the center of non-academic student and faculty life. The building, located in the heart of the campus, provides a living room for students away from home — a place to relax, to entertain friends, and to find convenient dining and school supply service. Planned programs of social, recreational and cultural events help develop students in the art of human relations.

Located in the Auburn Union are the War Eagle Cafeteria and Snack Bar, The Alumni Offices, Faculty Club, Student Government Offices, Publications Offices, The University Book Store, The Union Ballroom, meeting rooms, commuters lounges, banquet rooms, reading and TV lounges, and Union staff offices.

The main desk has become the central information center on campus. On hand are the registration cards on each student enrolled, listing class schedule, home address, and campus address.

## Religious Organizations

The student religious organizations of the churches of Auburn provide opportunity for worship, participation in religious programs, wholesome recreational and social activity and closer personal association with members of the faculty. These organizations are: Baptist Student Union; Disciples Student Fellowship (Christian Church); Church of Christ's Young People's Organization; the Canterbury Club of the Episcopal Church; Legion of Mary and the Newman Club of the Catholic Church; Gamma Delta, the International Association of Lutheran Students; Wesley Foundation of the Methodist Church; Westminster Fellowship of the Presbyterian Church; Hillel Counselship of the Jewish Faith; Liahona Fellowship of the Reorganized Church of Jesus Christ of Latter Day Saints; and the Christian Science Organization.

**The Religious Life Committee**, composed of students, faculty and staff of the University, serves as a functional organ for promoting and sponsoring all campus-wide religious activities in which operational coordination is needed to give the best benefits to the students of Auburn University.

## Independent Organizations

**Towers** — Towers is a social and service organization for women students not affiliated with a social sorority. It was organized in 1958 and its aims are: to maintain close sorority and independent relationship at Auburn; to encourage leadership and scholarship among members and affiliates; to provide an outlet for non-affiliated women students; to promote projects that benefit the entire student body of Auburn University.

## Musical Organizations

**Auburn Bands** — The bands are maintained by the university for regularly enrolled students who wish to develop their music ability and to participate in many university and off-campus activities. The **Marching Band**, which accompanies the football team on its trips to games in this area, and which represents the university for various university, state, and out of state functions, normally consists of approximately one hundred players, who receive special training in drill formations. Physical Education may be waived for students during the fall quarters in which they are members of the Marching Band. (See Band Director for details.) The **Concert Band** consists of advanced students who have passed the work of the preliminary bands, and students who are preparing to teach band in the schools. It provides music for various university activities and some off-campus functions such as concert tours. Regular training which embodies instruction in the rudiments of music and the use of band instruments is given free of charge at the band practice periods. These activities may be taken with or without university credit.

**Auburn University Orchestra** — The **Orchestra** is sponsored by the Music Department for the development of musical talent and individual achievement in ensemble playing. Students at the early stages of musical training, especially those in violin, viola and cello are invited to participate. Membership is by permission of the director. This activity may be taken with or without university credit.

**Auburn Glee Clubs** — The **Men's Glee Club**, the **Women's Glee Club**, and the **Mixed Chorus** are large study and performing choruses open to any student. Regular rehearsals and participation in campus and off-campus activities are a part of these courses. Admission to the **Concert Choir** is obtained by audition; a high degree of proficiency in choral singing and a systematic study of serious choral literature is expected of the men and women who are chosen for this group. These activities may be taken with or without university credit. Qualified students are selected to sing in the **Men's Octet** and the **Women's Octet**. The **Octets** are often called upon to furnish light, entertaining music for events at Auburn and throughout the state.

**Auburn Opera Workshop** — This organization has as its primary purpose the training of students in the various phases of operatic production largely through actual stage performances of outstanding operas. Membership is open with or without university credit to all students. Each year the group produces several operas sung in English. Students are assigned duties as singers, stage technicians, musical assistants, etc., according to their respective interests and talents.



# Schools and Curricula

Resident instruction in the University is offered through Schools and Departments as indicated below. Regular curricula offered in the several Schools are also listed.

**School of Agriculture**, includes the Departments of Agricultural Economics, Agricultural Engineering, Agronomy and Soils, Animal Science, Botany and Plant Pathology, Dairy Science, Forestry, Horticulture, Poultry Science, and Zoology-Entomology. Curricula offered are: *Agricultural Science, Agricultural Administration, Agricultural Engineering, Biological Sciences, Forestry, and Ornamental Horticulture*. Within each curriculum students are permitted to major in line with their special interests.

**School of Air Science**, includes the Department of Air Science and offers training in Air Science.

**School of Architecture and The Arts**, includes the Departments of Architecture, Art, Building Technology, Dramatic Arts, and Music. Curricula offered are: *Architecture, Building Construction, Dramatic Arts, Interior Design, Art (options in Advertising Design, Illustration, Fashion Illustration, Industrial Design, and Painting) and Music*.

**School of Chemistry**, includes the Departments of Chemistry, Chemical Engineering, and Laboratory Technology. Curricula offered are: *Chemistry, Chemical Engineering, and Laboratory Technology*.

**School of Education**, includes the Departments of Agricultural Education; Elementary Education; Secondary Education; Administration, Supervision, and Guidance; Health and Physical Education; and Psychology. Undergraduate curricula offered are: *Agricultural Education, Industrial Arts Education, Elementary Education, Secondary Education (majors or minors in Art, Business Education, Dramatic Arts, English, Foreign Languages, Health and Physical Education, Home Economics Education, Mathematics, Mental Retardation, Music, School Library Service, Science, Social Science, Speech, and Speech Correction), and Psychology*.

**School of Engineering**, includes the Departments of Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Graphics, Industrial Laboratories, Industrial Management, Mechanical Engineering, Textile Technology, and Auburn School of Aviation. This School offers curricula in *Aeronautical Administration, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Physics, Mechanical Engineering, Industrial Management, Textile Chemistry, Textile Management, and Textile Science*.

**School of Home Economics**, includes the Departments of Clothing, Child Development, Foods and Nutrition, and House Administration. Curricula offered are: *Home Economics (majors in Clothing and Textiles, Foods and Nutrition, Home Management and Family Economics, Family Life and Early Childhood Education), and Nursing Science*.

**School of Military Science**, includes the Department of Military Training and offers training in Military Science.

**School of Naval Science**, includes the Department of Naval Science and offers training in Naval Science.

**School of Pharmacy**, includes the Departments of Pharmacy, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy, Pharmacy Administration, and offers a curriculum in *Pharmacy*.

**School of Science and Literature**, includes the Departments of Economics and Sociology, English and Journalism, Foreign Languages, History and Political Science, Mathematics, Philosophy, Physics, Religious Education, Speech, and Secretarial Training. Curricula offered are: *Science and Literature (majors in liberal arts subjects)*, *Pre-Law*, *Business Administration*, *Secretarial Training*, *Physics*, and *Pre-Professional Science (Pre-Engineering, Pre-Medicine, Pre-Dentistry, and Pre-Veterinary Medicine)*.

**School of Veterinary Medicine**, includes the Departments of Anatomy and Histology, Bacteriology, Pathology and Parasitology, Physiology and Pharmacology, Surgery and Medicine, and offers a curriculum in *Veterinary Medicine*.

**The Graduate School** administers program leading toward the Master's degree, the Doctor of Education degree, and the Doctor of Philosophy degree. (See Graduate School catalog.)

# School of Agriculture

E. V. SMITH, *Dean*

CHARLES F. SIMMONS, *Associate Dean*

COYT T. WILSON, *Assistant Dean*

**T**HE SCHOOL OF AGRICULTURE offers courses designed to prepare both men and women for careers in the field of agriculture and related professions. The courses are so arranged as to provide a broad foundation in the basic sciences, a general knowledge of the applied sciences, and a reasonable number of cultural subjects. Most of the basic science courses are given in the freshman and sophomore years and serve as a basis for a better understanding of the applied or more practical subjects which are usually taken in the junior and senior years.

A curriculum is offered in Agricultural Science with majors in Agronomy and Soils, Animal Science, Dairy Production, Dairy Manufacturing, Poultry Science, Horticulture, and Agricultural Journalism. Other curricula are offered in Agricultural Administration, Agricultural Engineering, Forestry, Ornamental Horticulture, and Biological Sciences. Within these curricula majors are permitted in line with the student's special interest. If a student is permitted to major in a field where the courses are not prescribed in the catalog he should consult with the head of the department concerned.

The School of Agriculture also furnishes the subject matter training in Agriculture for the curriculum in Agricultural Education.

Credit will not be allowed for agricultural subjects taken at non-land-grant colleges unless the student passes validating examinations in such subjects after entering Auburn. Arrangements for these examinations must be made with the Dean of Agriculture in the first quarter of the student's enrollment in the School of Agriculture at Auburn and the examinations must be completed before the middle of the second quarter.

## Curriculum in Agricultural Science (AG)

### FRESHMAN YEAR

#### FIRST QUARTER

CH 103	Gen. Chemistry .....	4
CH 103L	Gen. Chem. Lab. ....	1
HY 107	American History .....	5
MH 111	Intr. College Math. ....	5
AS 101	Agr. Orientation .....	0
MS	Military Training .....	1
PE	Physical Education .....	1

#### SECOND QUARTER

EH 101	English Comp. ....	5
CH 104	Gen. Chemistry .....	4
CH 104L	Gen. Chem. Lab. ....	1
ZY 101	Gen. Zoology .....	5
MS	Military Training .....	1
PE	Physical Education .....	1

#### THIRD QUARTER

EH 102	English Comp. ....	5
MH 112	Intr. College Math. ....	5
ZY 102	Gen. Zoology .....	5
MS	Military Training .....	1
PE	Physical Education .....	1

### SOPHOMORE YEAR

AH 200	Int. An. Husb. ....	5
BY 201	General Botany .....	5
PS 204	Physics .....	5
MS	Military Training .....	1
PE	Physical Education .....	1

AS 202	Agr. Economics .....	5
BY 202	General Botany .....	5
CH 105	Gen. Chemistry .....	3
CH 105L	Gen. Chem. Lab. ....	2
MS	Military Training .....	1
PE	Physical Education .....	1

AH 204	Animal Nutrition .....	5
AY 201	Grain Crops .....	5
HF 201	Orchard Mgt. ....	5
MS	Military Training .....	1
PE	Physical Education .....	1

### JUNIOR YEAR

AN 301	Drainage & Ter. ....	5
PH 301	General Poultry .....	5
PS 305	Public Speaking .....	3
JM 315	Agr. Journalism .....	3
	Elective .....	3

AY 304	General Soils .....	5
BY 306	Plant Physiology .....	5
DH 200	Fund. of Dairying .....	5
	Elective .....	3

AN 303	Farm Machinery and Equipment .....	5
BY 309	Plant Diseases .....	5
HF 308	Vegetable Gard. ....	5
	Elective .....	3

## SENIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AY 404	Cotton Production .5	AS 301	Agr. Marketing .5	AH 401	Swine Production .5
FY 313	Farm Forestry .5	AY 401	Forage Crops .5	AS 401	Farm Management .5
	Elective .5		Elective .5	ZY 402	Economic Ento. .5
	Elective .3		Elective .3		Elective .3

Total—211 quarter hours

## Major in Agronomy and Soils

## FRESHMAN YEAR

(Same as in Agricultural Science except Botany 201 will be substituted for Zoology 102)

## SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AY 201	Grain Crops .5	AH 204	Animal Nutrition .5	AH 200	Introductory Animal Husbandry .5
BY 202	General Botany .5	CH 105	Gen. Chemistry .3	AY 304	General Soils .5
CH 203	Organic Chem. .5	CH 105L	Gen. Chem. Lab. .2	DH 200	Fund. of Dairying .5
MS	Military Training .1	PS 204	Physics .5	MS	Military Training .1
PE	Physical Education .1	MS	Military Training .1	PE	Physical Education .1

## JUNIOR YEAR

AS 202	Agr. Economics .5	AY 406	Com. Fertilizers .3	AN 303	Farm Mach. & Equipment .5
AN 301	Drainage & Terracing .5	HF 308	Vegetable Gard. .5	AY 306	Soil Morph. & Survey .3
BY 306	Elementary Plant Physiology .5	PH 301	General Poultry .5	JM 315	Agr. Journalism .3
	Elective .3	SP 305	Public Speaking .3		Electives .8
			Elective .3		

## SENIOR YEAR

AS 401	Farm Management .5	AY 401	Forage Crops .5	AY 402	Soil Fertility .5
AY 404	Cotton Prod. .5	BY 309	Plant Diseases .5	ZY 402	Economic Ento. .5
FY 313	Farm Forestry .5		Electives .8	ZY 400	Genetics .5
	Elective .3				Elective .3

Total—212 quarter hours

## RECOMMENDED ELECTIVES

AH 401	Swine Production .5	AY 454	Soil Genesis and Classification .5
AH 402	Beef Cattle Production .5	AY 455	Soil Physics .5
AY 403	Grazing Crops in Alabama .5	BY 401	Principles of Biometry .5
AY 405	Turf and its Management .3	BY 413	General Plant Ecology .5
AY 409	Seed Production .3	BY 415	Developmental Anatomy of Crop Plants .5
AY 410	Methods of Plant Breeding .3	CH 206	Quantitative Analysis .5
AY 453	Geomorphology .5		

Students planning to major in Agronomy and Soils should contact the Head of the Department and be assigned an advisor. Electives will be selected in consultation with their advisor in line with their interests and needs. Students desiring further training may plan their course of study so as to be prepared for graduate work at this or other institutions.

## Major in Animal Science

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AH 200	Intro. An. Husb. .5	EH 101	English Comp. .5	CH 105	Gen. Chemistry .3
CH 103	Gen. Chemistry .4	CH 104	Gen. Chemistry .4	CH 105L	Gen. Chem. Lab. .2
CH 103L	Gen. Chem. Lab. .1	CH 104L	Gen. Chem. Lab. .1	EH 102	English Comp. .5
MH 111	Intr. College Math. .5	MH 112	Intr. College Math. .5	ZY 101	Gen. Zoology .5
AS 101	Agr. Orientation .0	MS	Military Training .1	MS	Military Training .1
MS	Military Training .1	PE	Physical Education .1	PE	Physical Education .1
PE	Physical Education .1				

## SOPHOMORE YEAR

HY 206	American Govt. .5	AH 204	Animal Nutrition .5	AS 202	Agr. Economics .5
PS 204	Physics .5	BY 301	Gen. Botany .5	AY 201	Grain Crops .5
ZY 102	Gen. Zoology .5	CH 203	Organic Chemistry .5	MS	Military Training .1
MS	Military Training .1	SP 305	Public Speaking .3	PE	Physical Education .1
PE	Physical Education .1	MS	Military Training .1		
		PE	Physical Education .1		

## JUNIOR YEAR

## FIRST QUARTER

AY 304	General Soils .....	5
DH 200	Fund. of Dairying ..	5
VM 420	Gen. Microbiology ..	5
	Elective .....	3

## SECOND QUARTER

AH 302	Feeds & Feeding ....	3
AH 404	Mkt. Class & Grades ..	3
PH 301	Gen. Poultry .....	5
VM 421	Animal Physiology ..	5
	Elective .....	3

## THIRD QUARTER

VM 422	Animal Diseases .....	5
ZY 400	Genetics .....	5
JM 315	Agr. Journalism .....	3
	Elective .....	5

## SENIOR YEAR

AN 303	Farm Machinery & Equipment .....	5
AY 404	Cotton Production ..	5
ZY 402	Economic Ento. ....	5
	Elective .....	3

AH 403	Animal Breeding ....	5
AS 401	Farm Management ..	5
AY 401	Forage Crops .....	5
	Elective .....	3

AH 401	Swine Production ....	5
AH 402	Beef Cattle Prod. ....	5
AH 406	Reproduction in Farm Animals .....	5
	Elective .....	3

## Total—212 quarter hours

Students desiring to major in Animal Science should contact the Head of Department for assignment of an advisor. For majors in Animal Science, who intend to do graduate work, it is recommended that Organic Chemistry 207 and 208 or 303 and 304 and Quantitative Analysis 208 be taken in substitution for Organic Chemistry 203 and two other courses to be selected with the advice of the major professor. As approved by the Dean of Agriculture and the student's advisor, substitutions may be permitted to meet specific needs of individual students.

## Major in Dairy Manufacturing

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

BY 201	General Botany .....	5
DH 200	Fund. of Dairying ..	5
PS 204	Physics or	
PS 205	Introd. Physics .....	5
LY 101	Use of the Library ..	1
MS	Military Training ....	1
PE	Physical Education ..	1

## SECOND QUARTER

CH 105	Gen. Chemistry .....	3
CH 105L	Gen. Chem. Lab. ....	2
EC 213	Engineering Acctg. & Cost Control .....	5
JM 315	Agr. Journalism .....	3
SP 305	Public Speaking .....	3
MS	Military Training ....	1
PE	Physical Education ..	1

## THIRD QUARTER

AS 202	Agr. Economics .....	5
CH 203	Organic Chem. or	
CH 207	Organic Chem. ....	5
EC 214	Engineering Acctg. & Cost Control .....	5
MS	Military Training ....	1
PE	Physical Education ..	1

AH 204	Animal Nutrition ....	5
DH 305	Prac. Dairy Tests ....	5
VM 420	Gen. Microbiology ..	5
	Elective .....	3

DH 308	Dairy Bacteriology ..	5
DH 311	Judging Dairy Prod. ..	1
	Electives .....	13

EH 345	Business & Pro- fessional Writing ....	5
DH 310	Technical Control of Dairy Products ....	5
DH 312	Judging Dairy Prod. ..	1
	Electives .....	8

## SENIOR YEAR

DH 408	Dairy Plant Proc. ....	5
DH 313	Judging Dairy Products .....	1
	Electives .....	13

DH 409	Dairy Plant Proc. ....	5
AN 406	Dairy Engineering ....	3
DH 411	Food Plant Sanitation .....	3
	Electives .....	8

DH 410	Dairy Plant Proc. ....	5
	Electives .....	13

## Total—216 quarter hours

Of the 58 elective credits, at least 35 credits must be chosen from one of the categories listed below:

## I. GENERAL AGRICULTURE

AH 200	Intro. Animal Husb. ..	5
AS 401	Farm Management ..	5
AS 301	Agricultural Mktg. ....	5
AY 201	Grain Crops .....	5
AY 304	General Soils .....	5
AY 401	Forage Crops .....	5
DH 314-315-316	Dairy Cattle Judging .....	3
DH 317	Dairy Cattle Feed- ing & Management ..	5
DH 403	Dairy Farm Prac. ....	5
PH 301	General Poultry .....	5

## II. ECONOMICS

EC 331	Principles of Mktg. ....	5
EC 333	Salesmanship .....	5
EC 341	Business Law .....	5
EC 345	Statistics .....	5
EC 404	Office Management ..	5
EC 432	Advertising .....	5
EC 442	Personnel Mgt. ....	5
EC 463	Corp. Finance .....	5
IM 306	Industrial Mgt. ....	5

## III. BASIC SCIENCE\*

BY 401	Biometry .....	5
CH 208	Quant. Analysis .....	5
CH 208	Organic Chemistry ..	5
CH 316	Physical Chemistry ..	5
CH 418	Biochemistry .....	5
CH 419	Biochemistry .....	5
CH 420	Biochemistry .....	5
PS 206	Intro. Physics .....	5
FL 151-152	German or	
FL 121-122	French .....	10

\* Courses recommended for students planning to take graduate work.

All students majoring in dairy manufacturing shall have had at least one summer practical dairy plant experience before graduation.

## Major in Dairy Production

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

CH 105	Gen. Chemistry	.....3
CH 105L	Gen. Chem. Lab.	..2
DH 200	Fund. of Dairying	..5
PS 204	Physics	.....5
LY 101	Use of the Library	..1
MS	Military Training	..1
PE	Physical Education	..1

## SECOND QUARTER

AS 202	Agr. Economics	.....5
BY 201	General Botany	.....5
CH 203	or 207 Organic Chemistry*	.....5
MS	Military Training	.....1
PE	Physical Education	..1

## THIRD QUARTER

AH 204	Animal Nutrition	.....5
AN 301	Drainage & Terracing	.....5
AY 201	Grain Crops	.....5
MS	Military Training	.....1
PE	Physical Education	..1

## JUNIOR YEAR

AY 304	General Soils	.....5	EH 345	Bus. & Prof. Writing	5
VM 420	Gen. Microbiology	..5	DH 308	Dairy Bacteriology	..5
SP 305	Public Speaking	.....3	VM 421	Animal Physiology	..5
	Elective	.....5	DH 314	Judging Dairy Cattle	1
			JM 315	Agr. Journalism	..3
			DH 315	Judging Dairy Cattle	1
				Elective	.....3

## SENIOR YEAR

AN 303	Farm Machinery & Equipment	.....5	AH 403	Animal Breeding	.....5
DH 408	Dairy Plant Proc.	.....5	PH 301	General Poultry	.....5
DH 317	Dairy Cattle Feeding & Management	..5	DH 402	Artificial Insemination	.....3
DH 316	Judging Dairy Cattle	1		Elective**	.....5
	Elective	.....3	AS 401	Farm Management	..5
			DH 403	Dairy Farm Prac.	..5
			ZY 402	Economic Ento.	.....5
				Elective	.....3

Total—214 quarter hours

\* If anticipating graduate study, CH 207 is recommended, with CH 208 also being taken as an elective.

\*\* If graduate study is planned, CH 206 Quantitative Analysis should be taken.

## Major in Horticulture

## FRESHMAN YEAR

(Same as in Agricultural Science except Botany 201 will be substituted for Zoology 102)

## SOPHOMORE YEAR

## FIRST QUARTER

BY 202	General Botany	.....5
HF 201	Orchard Mgt.	.....5
PS 204	Physics	.....5
MS	Military Training	.....1
PE	Physical Education	..1

## SECOND QUARTER

AS 202	Agr. Economics	.....5
CH 105	Gen. Chemistry	.....3
CH 105L	Gen. Chem. Lab.	..2
HF 224	Plant Propagation	..5
MS	Military Training	.....1
PE	Physical Education	..1

## THIRD QUARTER

AH 204	Animal Nutrition	.....5
AN 303	Farm Machinery	.....5
HF 221	Landscape Gardening	.....5
MS	Military Training	.....1
PE	Physical Education	..1

## JUNIOR YEAR

AY 304	General Soils	.....5	AN 301	Drainage & Ter.	.....5
PH 301	General Poultry	.....5	AY 402	Soil Fertility	.....5
SP 305	Public Speaking	.....3	HF 407	Preparation and Handling of Fruits and Vegetables	.....5
JM 315	Agr. Journalism	..3		Elective	.....3
	Elective	.....3			

## SENIOR YEAR

HF 401	Truck Crops	.....5	BY 309	Plant Diseases	.....5
HF 323	Floriculture or		HF 404	Fruit Growing	.....5
HF 406	Nut Culture	.....5		Electives	.....8
	Electives	.....8			

Total—211 quarter hours

## APPROVED ELECTIVES

AH 200	Introductory Animal Husbandry	.....5	EC 333	Salesmanship	.....5
AS 401	Farm Management	.....5	FY 313	Farm Forestry	.....5
AS 404	Cooperation in Agriculture	.....3	HF 225	Flower Arranging	.....3
AY 201	Grain Crops	.....5	HF 402	Plant Breeding	.....5
AY 401	Forage Crops	.....5	HF 421	Arboriculture	.....5
AY 406	Commercial Fertilizer	.....3	HF 423	Nursery Management	.....5
CH 203	Organic Chemistry	.....5	PG 310	Reading Improvement	.....3
CH 206	Quantitative Analysis	.....5	ST 113	Personal Typewriting	.....3
CH 342	Geology	.....3	ZY 400	Genetics	.....5
DH 200	Fundamentals of Dairying	.....5	ZY 406	Bee Culture	.....5



## Major in Poultry Science

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

AH 200	Intro. Ani. Husb.	..5
CH 105	Gen. Chemistry	..3
CH 105L	Gen. Chem. Lab.	..2
PS 204	Physics	..5
MS	Military Training	..1
PE	Physical Education	..1

## SECOND QUARTER

AS 202	Agr. Economics	..5
BY 201	General Botany	..5
CH 203	Organic Chemistry	..5
MS	Military Training	..1
PE	Physical Education	..1

## THIRD QUARTER

AH 204	Animal Nutrition	..5
AY 201	Grain Crops	..5
PH 301	General Poultry	..5
MS	Military Training	..1
PE	Physical Education	..1

## JUNIOR YEAR

AH 302	Feeds & Feeding	..3
DH 200	Fund. of Dairying	..5
PH 302	Poultry Meat Prod.	..3
	Electives	..6

AN 306	Farm Bldg. Const.	..3
JM 315	Agr. Journalism	..3
PH 404	Poultry Mgt.	..5
SP 305	Public Speaking	..3
	Elective	..5

AY 304	General Soils	..5
PH 411	Poultry Marketing	..3
ZY 400	Genetics	..5
	Elective	..5

## SENIOR YEAR

PH 405	Poultry Feeding	..3
ZY 301	Comp. Anatomy	..5
VM 420	Gen. Microbiology	..5
	Elective	..5

AS 401	Farm Management	..5
PH 408	Poultry Diseases	..5
PH 406	Inc. & Brooding	..3
	Elective	..5

AY 401	Forage Crops	..5
PH 410	Poultry Breeding	..3
ZY 402	Economic Entomol.	..5
	Elective	..5

Total—210 quarter hours

## RECOMMENDED ELECTIVES

AH 401	Swine Production	..5
AH 402	Beef Cattle Production	..5
AH 403	Animal Breeding	..5
AN 303	Farm Machinery & Equipment	..5
CH 206	Quantitative Analysis	..5

CH 301	Biochemistry	..5
HF 201	Orchard Management	..5
HF 308	Vegetable Gardening	..5
PH 407-409	Poultry Problems	..6
ZY 302	Vertebrate Embryology	..5

## Agricultural Administration

The course in Agricultural Administration is designed both for those students who plan a career in businesses closely related to agriculture, and for those interested in the economics of agricultural production and marketing and in public policies affecting agriculture. The curriculum is administered through a faculty advisor system wherein individual student programs of study are developed in accordance with individual student needs and interests. The need for broad training, rather than narrow specialization, is emphasized.

The curriculum not only combines both business and technical agricultural courses, but through selection of electives it provides an opportunity for students to emphasize training in agri-business, in Agricultural Economics, or in selected production fields. The curriculum leads to a degree of Bachelor of Science in Agricultural Administration.

The demand for graduates who have both business and applied agricultural training is increasing. In both public and private agencies, increasing attention to rural economic and social problems points to enlarged opportunities for qualified workers in teaching, research, sales, public relations, services, administration, and private employment in these fields. By properly selecting electives, students may prepare themselves to become (1) owners or managers of firms that produce, process, or market agricultural products; (2) teachers, research workers, or educational workers in the field; (3) public servants in the capacity of farm management or marketing specialists, commodity analysts, market news reporters, inspectors, credit analysts, etc.; or (4) employees of business firms that handle agricultural products or that service agricultural production and marketing firms.

## Curriculum in Agricultural Administration (AM)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	EH 102	English Comp. ....5	BY 201	Gen. Botany ....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	CH 104	Gen. Chemistry ....4
ZY 101	Gen. Zoology ....5	CH 103	Gen. Chemistry ....4	CH 104L	Gen. Chem. Lab. .1
AS 101	Agr. Orientation ....0	CH 103L	Gen. Chem. Lab. .1	HY 107	American History ....5
MS	Military Training ....1	LY 101	Use of Library ....1	MS	Military Training ....1
PE	Physical Education .1	MS	Military Training ....1	PE	Physical Education .1
		PE	Physical Education .1		

## SOPHOMORE YEAR

AH 204	Animal Nutrition ....5	EC 212	Intr. Accounting .5	EC 341	Business Law ....5
AS 202	Agr. Economics ....5	DH 200	Fund. of Dairying .5	HY 206	American Gov't ....5
EC 211	Intr. Accounting ....5	PS 204	Physics ....5	PH 301	General Poultry ....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## JUNIOR YEAR

AH 303	Livestock Prod. ....5	AS 301	Agr. Marketing ....5	AN 303	Farm Mach. & Eqp. 5
AY 307	General Soils ....5	SP 305	Public Speaking .3	EC 345	Statistics ....5
EC 360	Money & Banking .5	SY 305	Rural Sociology ....5	EH 345	Bus. & Prof. Writ. .5
	Elective ....3		Electives ....6		Elective ....3

## SENIOR YEAR

EC 446	Business Cycles ....5	AY 401	Forage Crops ....5	AS 401	Farm Management .5
AS 410	Agr. Bus. Mgt. ....3	AS 403	Agr. Prices ....3	AS 405	Agr. Policy ....3
	Electives ....10	FY 313	Farm Forestry ....5		Electives ....10
			Elective ....5		

Total—212 quarter hours

## RECOMMENDED ELECTIVES

Group 1		Group 2		Group 3	
AH 302	Feeds & Feeding ....3	AS 404	Cooperation in Agr. 3	PA 301 or PA 304	
AH 401	Swine Production ....5	AS 302	Farm Records ....3	Philosophy	3-5
AH 402	Beef Cattle Prod. ....5	AS 408	Agr. Financing ....3	PA 302 or PA 305	
AN 301	Drainage & Ter. ....5	AS 409	Farm Appraisal ....3	Ethics	3-5
AN 305	Farm Trac. & Eng. 5	EC 332	Credits & Col. ....5	PA 308	Intr. Logic ....3
AY 201	Grain Crops ....5	EC 333	Salesmanship ....5	or	
AY 404	Cotton Production .5	EC 432	Advertising ....5	PA 307	Scientific Rsn'g ....5
AY 406	Commercial Fert. ....3	EC 451	Intr. Ec. Theory ....5	PG 211	Gen. Psychology ....5
AY 407	Soil Management .5	EC 463	Corp. Finance ....5	PG 330	Social Psychology .5
HF 401	Truck Crops ....5	EC 464	Investments ....5	PG 360	Applied Psychology 5
HF 404	Fruit Growing ....5	EC 465	Public Finance ....5	SY 201	Gen. Sociology ....5
ZY 400	Genetics ....5	EC 474	Adv. Statistics ....5	SY 311	Tech. & Soc. Chg. .3

Students desiring to major in Agricultural Administration should contact the Head of the Department of Agricultural Economics as early in their college careers as possible in order that they may be assigned to a faculty advisor. Electives will be selected in consultation with faculty advisors based on student needs and interests.

## Agricultural Engineering

This is a technical field designed to train engineers in the agricultural fields. The curriculum includes courses basic to all types of engineering, courses with particular emphasis on engineering problems in agriculture, and general agricultural courses. The curriculum leads to a degree of Bachelor of Science in Agricultural Engineering. Students completing the curriculum have opportunities in many types of work where both engineering and agricultural knowledge are required.

The Agricultural Engineering curriculum is accredited by the Engineers' Council for Professional Development.

## Curriculum in Agricultural Engineering (AN)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 103	Gen. Chemistry .....4	CH 104	Gen. Chemistry .....4	EH 108	Classical Lit. ....5
CH 103L	Gen. Chem. Lab. ....1	CH 104L	Gen. Chem. Lab. ....1	CH 105	Gen. Chemistry ....3
EH 101	English Comp. ....5	EH 102	English Comp. ....5	CH 105L	Gen. Chem. Lab. ....2
MH 111	Intr. College Math. ....5	MH 112	Intr. College Math. ....5	MH 161	Anal. Geo. & Cal. ....5
EG 102	Engr. Draw. I .....2	EG 104	Des. Geometry .....2	EG 105	Engr. Draw. II .....2
AS 101	Agr. Orientation .....0	AN 101	Intr. Agr. Engr. ....0	AN 102	Intro. Agr. Engr. ....0
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ....1	PE	Physical Education ....1	PE	Physical Education ....1
					Humanistic or Social
					Elective .....1

## SOPHOMORE YEAR

AN 201	Farm Machinery .....5	EC 200	Gen. Economics or	ME 205	Applied Mechanics ....5
MH 262	Anal. Geo. & Cal. ....5	AS 202	Agr. Economics .....5	MH 264	Anal. Geo. & Cal. ....5
PS 201	Gen. Physics,	EG 204	Kinematics of	PS 203	Gen. Physics,
	Mechanics .....5		Machines .....3		Elec. & Magnetism 5
CE 210	Engr. Surveying .....3	MH 263	Anal. Geo. & Cal. ....5	EG 205	Applied Graphic
MS	Military Training ....1	PS 202	Gen. Physics, Heat		Statics .....2
PE	Physical Education ....1		Sound & Light .....5	MS	Military Training ....1
		MS	Military Training ....1	PE	Physical Education ....1
		PE	Physical Education ....1		

## JUNIOR YEAR

HY 107	American History ....5	AN 302	Farm Bldgs. &	AN 304	Rural Elect. ....5
EE 202	Elec. & Mag. Cir. ....5		Sanitation .....5	AY 304	General Soils .....5
ME 306	Strength of Mat. I ....5	ME 310	Thermodynamics ....5	EH 304	Technical Writing ....3
	Agr. Elective .....5	ME 320	Machine Design ....5	ME 322	Machine Design ....2
			Agr. Elective .....5	ME 434	Fluid Mech. and
					Heat Transfer .....5

## SENIOR YEAR

AN 403	Drainage & Terrace	AN 401	Farm Power .....5	AN 405	Supplemental
	Design .....5	AN 404	Rural Engr. ....5		Irrigation .....5
AN 407	Farm Machinery		Agr. Elective .....5	AN 408	Farm Power
	Design and Testing 3		Humanistic or Social		Design and Testing 3
CE 408	Hydraulics Lab. ....1		Elective .....5		Agr. Elective .....5
	Humanistic or Social			SP 305	Public Speaking ....3
	Electives .....6				Humanistic or Social
	Agr. Elective .....5				Elective .....3

Total—236 quarter hours

## ELECTIVES

Courses used for electives must be selected from the list of Humanistic-Social Studies below, subject to approval of the Department Head.

Six hours of Advanced ROTC may be substituted for SP 305 Public Speaking and EH 304 Technical Writing.

Requirements for the agricultural electives may be met by taking five hours from the following groups of courses: Group 1. AY 401 Forage Crops; AY 201 Grain Crops; AY 404 Cotton Prod.; AY 402 Soils and Soil Fertility; and ten hours from each of the following groups of courses: Group 2. FY 313 Farm Forestry; AS 401 Farm Mgt.; AS 301 Agr. Marketing; ZY 402 Eco. Entomology; and Group 3. AH 200 Intro. to Animal Husbandry; AH 303 Livestock Production; BY 201 General Botany; DH 200 Fundamentals of Dairying; PH 301 General Poultry.

## APPROVED HUMANISTIC-SOCIAL ELECTIVES

<b>HISTORY AND GOVERNMENT</b>		EH 350	Shakespeare's Greatest Plays .....3
HY 204	Hist. of the Modern World .....3	EH 355	Masterpieces of World Literature ....3
HY 206	American Government .....5	EH 365	Southern Literature .....3
HY 207	or 208 World History .....5	EH 381	The Literature of the Age of Reason 3
HY 314	American Colonial History .....3	EH 385	The Impact of Science and Tech-
HY 315	International Organization .....3		nology upon Modern Literature ....3
HY 322	The U.S. in World Affairs .....3	SP 334	Great American Speeches .....3
HY 371	History of the West .....3		
HY 407	Political Science .....5	<b>THE ARTS</b>	
HY 460	Great Leaders of History .....3	AT 332	American Painting and Sculpture ....3
HY 482	History of the South .....3	AT 431	Contemporary Art .....3
HY	Current Events .....1	AR 360	Appreciation of Architecture ....3
<b>LITERATURE</b>		DR 313	Drama Appreciation I .....3
EH 208	Literature of the Western World ....3	DR 314	Drama Appreciation II .....3
EH 320	An Introduction to Drama .....3	MU 373	Appreciation of Music .....3
		MU 374	Masterpieces of Music .....3

**ECONOMICS**

EC 206	Socio-Economic Foundations of Contemporary America	3
EC 301	Geo-Political Basis of World Powers	3
EC 405	Cultural Geography of the World	5
EC 407	World Resources & Their Utilization	5

**SOCIOLOGY**

SY 201	Introduction to Sociology	5
SY 204	Social Behavior	5
SY 307	The Court and Penal Administration	3
SY 311	Technology and Social Change	3
SY 403	Regional Sociology	5

**PHILOSOPHY AND RELIGION**

PA 301	Introduction to Philosophy	3
PA 302	Introduction to Ethics	3
PA 330	Philosophy of Religion	5
PA 307	Scientific Reasoning	5
PA 308	Introduction to Logic	3
PA 440	American Philosophy	5
RE 303	Christian Ethics	5
RE 305	Comparative Religion	3
RE 306	Studies of the Gospels	3

**PSYCHOLOGY**

PG 211	General Psychology	5
PG 311	Behavior of Man	3
PG 461	Industrial Psychology	5

**Curriculum in Ornamental Horticulture (OH)****FRESHMAN YEAR****FIRST QUARTER****SECOND QUARTER****THIRD QUARTER**

MH 111	Intr. College Math.	5	BY 202	General Botany	5	CH 103	Gen. Chemistry	4
BY 201	General Botany	5	HF 101	Intro. to Orna. Hort.	1	CH 103L	Gen. Chem. Lab.	1
EH 101	English Comp.	5	EH 102	English Comp.	5	HF 221	Landscape Gard.	5
AS 101	Agr. Orientation	0	MH 112	Intr. College Math.	5	ZY 101	General Zoology	5
MS	Military Training	1	MS	Military Training	1	MS	Military Training	1
PE	Physical Education	1	PE	Physical Education	1	PE	Physical Education	1

**SOPHOMORE YEAR**

CH 104	Gen. Chemistry	4	CH 105	Gen. Chemistry	5	EC 200	Gen. Economics	5
CH 104L	Gen. Chem. Lab.	1	CH 105L	Gen. Chem. Lab.	2	HF 321	Plant Materials	5
HF 222	Plant Materials	5	HF 223	Plant Materials	5	SP 305	Public Speaking	3
HY 107	American History	5	HF 224	Plant Propagation	5	JM 315	Agr. Journalism	3
MS	Military Training	1	MS	Military Training	1	MS	Military Training	1
PE	Physical Education	1	PE	Physical Education	1	PE	Physical Education	1

**JUNIOR YEAR**

BY 306	Plant Physiology	5	AY 304	General Soils	5	EC 211	Intro. Accounting	5
HF 323	Floriculture	5	BY 309	Plant Diseases	5	HF 322	Garden Mgt.	5
ZY 400	Genetics*	5		Tech. Elective	5		Tech. Elective	5
	Gen. Elective	3		Gen. Elective	3		Gen. Elective	3

**SENIOR YEAR**

HF 424	Plant Composition	5	HF 426	Minor Problems	5	AY 402	Soil Fertility	5
HF 429	Adv. Plt. Prop.	5		Tech. Electives	10	ZY 402	Economic Ento.	5
	Tech. Elective	5		Gen. Elective	3		Tech. Elective	5
	Gen. Elective	3					Gen. Elective	3

\* ZY 430 Principles of Heredity may be substituted for ZY 400.

**Total—212 quarter hours**

**TECHNICAL ELECTIVES:** Floriculture Field—HF 324 Floriculture, HF 402 Plant Breeding, HF 421 Arboriculture, HF 422 Floriculture, HF 423 Nursery Management, HF 425 Flower Shop, HF 427-8 Minor Problems, BY 406 Systematic Botany, AY 406 Commercial Fertilizers, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising; Landscape Field—HF 325 Landscape Design I, HF 326 Landscape Design II, HF 327 Landscape Construction, HF 421 Arboriculture, HF 423 Nursery Management, HF 427-8 Minor Problems, BY 406 Systematic Botany, AN 301 Drainage and Terracing, AY 406 Commercial Fertilizers, EC 212 Introductory Accounting, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising, EC 433 Retail Store Management, EC 434 Purchasing, EC 442 Personnel Management, AT 101 Freehand Drawing, AT 112 Perspectives, AT 141 Art Structures, AT 223 Water Colors, AT 317 Packaging; Nursery Field—HF 324 Floriculture, HF 421 Arboriculture, HF 422 Floriculture, HF 423 Nursery Management, HF 427-8 Minor Problems, HF 402 Plant Breeding, BY 406 Systematic Botany, AY 406 Commercial Fertilizers, AN 301 Drainage and Terracing, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising; Flower Shop Field—HF 324 Floriculture, HF 422 Floriculture, HF 425 Flower Shop, HF 427-8 Minor Problems, AT 101 Freehand Drawing, AT 112 Perspectives, AT 141 Art Structures, AT 223 Water Colors, AT 317 Packaging, EC 212 Introductory Accounting, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising, EC 433 Retail Store Management, EC 434 Purchasing, EC 442 Personnel Management, BY 406 Systematic Botany.

## Forestry

Training in forest management and administration prepares the student as a land manager. He acquires professional knowledge and skills relating to efficient production of wood as a raw material. He studies policies, techniques and procedures whereby land may be managed for related products and services including water, wildlife and recreation. There is a strong demand for foresters in private industry. Pulp companies, lumber and related industries hire the majority of graduates in the South. State and Federal agencies as well as consulting foresters employ a large number of graduates. The graduate may expect his initial assignments to include land line surveying, timber cruising, timber marking and land and timber purchasing. After experience is gained the graduate will assume more responsibility for land management plans and policies in his capacity as a land manager.

Wood technology is the science of making the most efficient use of the products of the tree. This includes the development of new products as well as more efficient production of standard products. The wood technologist must understand the physics and chemistry of wood as well as its anatomy and structure and must be familiar with various wood products and the methods for manufacturing them. The curriculum is sufficiently flexible that the student may specialize in chemistry, structural design, industrial management or in other fields of his choice by proper selection of his minors in these fields. The wood technologist finds employment with wood manufacturing industries and their suppliers as well as with private and public organizations which carry on research and product development for industry.

The Department of Forestry is accredited by the Society of American Foresters.

## Curriculum in Forestry (FY)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BY 201 General Botany .....	5	BY 202 General Botany .....	5	BY 306 Elem. Plant	
CH 103 Gen. Chemistry .....	4	CH 104 Gen. Chemistry .....	4	Physiology* .....	5
CH 103L Gen. Chem. Lab. ..	1	CH 104L Gen. Chem. Lab. ..	1	CH 342 Geology* .....	3
MH 111 Intr. College Math. 5		MH 112 Intr. College Math. 5		EH 101 English Comp. ....	5
FY 102 Intro. to Forestry ....	1	FY 103 Intro. to Forestry ....	1	FY 104 Forest Cartography 2	
AS 101 Agr. Orientation .....	0	MS Military Training .....	1	MS Military Training .....	1
MS Military Training .....	1	PE Physical Education .....	1	PE Physical Education .....	1
PE Physical Education .....	1				

## SOPHOMORE YEAR

CE 201 Surveying I .....	5	AY 305 General Soils* .....	5	EC 200 Gen. Economics or	
EH 102 English Comp. ....	5	EH 304 Tech. Writing .....	3	AS 202 Agr. Economics .....	5
PS 205 Intro. Physics .....	5	PS 206 Intro. Physics .....	5	FY 203 Silvics* .....	5
FY 201 Dendrology .....	3	FY 202 Dendrology .....	3	FY 204 Mensuration .....	5
MS Military Training .....	1	MS Military Training .....	1	MS Military Training .....	1
PE Physical Education .....	1	PE Physical Education .....	1	PE Physical Education .....	1

\* Students in the Wood Technology major will substitute MH 113, Analytic Geometry, for BY 306, and CH 105-105L Gen. Chemistry for FY 203. In addition, they will substitute elective courses with corresponding hourly credit for CH 342 and AY 305.

## Forest Management Major

## JUNIOR SUMMER CAMP

FY 390 Field Mensuration ..	5
FY 391 Forest Engineering ..	5
FY 392 Forest Ecology .....	3
FY 393 Ala. Forest Indust. ..	3
FY 396 Forest Site	
Evaluation .....	2

## JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 213	Engin. Acctg. & Cost Control .....5	FY 302	Forest Fire Control 3	BY 310	Forest Pathology .....5
FY 301	Silviculture .....5	SP 305	Public Speaking .....3	HY 206	American Govt. ....5
FY 311	Wood Technology I 5	FY 310	Adv. Mensuration ....3	FY 315	Seeding & Planting 3
	Elective .....3	ZY 101	General Zoology .....5	FY 316	Forest Economics ....3
			Electives .....6		Elective .....3
SENIOR YEAR					
FY 427	Forest Valuation ....5	FY 407	Forest Mgt. ....5	FY 402	Range & Game Mgt. 5
FY 417	Photogrammetry .....5	FY 414	Reg. Silviculture ....3	FY 418	Adv. Forest Mgt. ....3
FY 434	Forest Policy .....2	FY 435	Forest Products	FY 305	Forest Research .....3
FY 408	Logging .....3		Merchandizing .....5	ZY 421	Forest Entomology ....5
	Elective .....3		Elective .....5		Elective .....3

## Total—238 quarter hours

**SUGGESTED ELECTIVES:** AS 403 Agriculture Prices, AY 306 Soil Morphology and Survey, BY 406 Systematic Botany, CE 204 Surveying II, CH 105 General Chemistry and CH 105L General Chemistry Lab, CH 206 Quantitative Analysis, EC 341 Business Law, EC 446 Business Cycles, FY 424 Cost Control and Integrated Utilization, FY 429 Forest Tree Nursery Management, MH 113 Analytic Geometry, PA 301 Introduction to Philosophy, PA 307 Introduction to Logic, PG 211 General Psychology, PG 310 Reading Improvement, SP 331 Advanced Public Speaking, SY 201 Introduction to Sociology.

## Wood Technology Major

As part of the requirement for the degree with a major in wood technology, the student must complete at least 10 weeks of work experience in a forest products processing plant approved by the department head. A satisfactory report on this work must be submitted to the department head during the next quarter in residence at Auburn.

## JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 203	Organic Chemistry ..5	ZY 101	General Zoology .....5	HY 206	American Govt. ....5
EC 213	Eng. Acctg. & Cost Control .....5	SP 305	Public Speaking .....3		Electives .....13
FY 311	Wood Technology I 5		Electives .....10		
	Elective .....3				

## SENIOR YEAR

FY 425	Wood Glue & Lami. 5	FY 430	Wood Technology II 5	FY 431	Wood Tech- nology III .....5
	Electives .....13	FY 432	Seasoning & Pres. ..5	FY 421	Forest Research .....3
		FY 435	Forest Products	FY 433	Seasoning & Preserving Lab. ....2
			Merchandizing .....5		Electives .....8
			Elective .....3		

## Total—216 quarter hours

**NOTE:** Sufficient latitude is allowed that the student may plan his elective work to fulfill his personal objectives while in college. Two minors will be required, however, outside the Department of Forestry, one of which must be in the School of Engineering or the School of Chemistry. Each minor shall consist of at least 20 quarter hours in a specialized field in courses numbered 200 or above. Prior to registration for the second quarter of the junior year the planned course content of the two minors must be approved by the department head. A student may always substitute a more intensive group of courses for one or more of the required courses provided the same breadth of coverage is maintained. Suggested Minors: Engineering Mechanics, Structural Engineering, Mathematics, Industrial Management, and Botany.

## Curriculum in Biological Sciences (BI)

## Major in Botany

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BY 201	General Botany .....5	CH 203	Organic Chem. or	AS 202	Agricultural Eco. or
CH 105	Gen. Chemistry .....3	CH 207	Organic Chem. ....5	EC 200	General Economics ..5
CH 105L	Gen. Chem. Lab. ..2	BY 202	General Botany .....5	BY 306	Elem. Plant Phys. ..5
PS 205	Physics .....5	PS 206	Physics .....5	EH 390	Advanced Comp. ....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1



## JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
FL 121	French or	AY 304	General Soils .....5	BY 406	Systematic Botany .....5
FL 151	German .....5	BY 309	Diseases of Plants .....5	ZY 304	Gen. Entomology or
SP 305	Public Speaking .....3	FL 122	French or	ZY 402	Econ. Entomology .....5
VM 420	Gen. Microbiology .....5	FL 152	German .....5		Electives .....8
	Elective .....5		Elective .....3		

## SENIOR YEAR

ZY 400	Genetics .....5	AY 401	Forage Crops .....5	AY 402	Soil Fertility .....5
	Electives .....13		Electives .....13		Electives .....13

## Total—210 quarter hours

Of the 55 elective hours, 35 must be chosen from the following lists, with 15 in botany courses. The remaining 20 may be chosen from other courses in these lists or from general electives.

BASIC SCIENCE		GENERAL AGRICULTURE		HUMANISTIC & SOCIAL SCIENCES	
BY 310	Forest Pathology .....5	AH 204	Animal Nutrition .....5	AT 332	Am. Painting and Sculpture .....3
BY 401	Prin. of Biometry .....5	AN 303	Farm Mach. and Equip. ....5	AT 431	Contemporary Art .....3
BY 410	Aquatic Plants .....5	AS 301	Agri. Marketing .....5	DR 313	Drama Apprec. I .....3
BY 413	Gen. Plant Ecology .....5	AY 201	Grain Crops .....5	DR 314	Drama Apprec. II .....3
BY 415	Devel. Anatomy of Crop Plants .....5	AY 404	Cotton Prod. ....5	EC 206	Socio-Eco. Found. of Contemp. Am. ....3
BY 416	Plant Microtechnique .....5	AY 405	Turf. & Its Mgt. ....3	EC 301	Geo-Political Basis of World Powers .....3
BY 420	Weed Ident. and Control .....5	AY 406	Commercial Fertilizers .....3	EC 405	Cultural Geography of the World .....5
BY 430	Nematode Diseases of Plants .....3	AY 409	Seed Prod. ....3	EH 310	World Study .....3
CH 206	Quant. Analysis .....5	FY 313	Farm Forestry .....5	EH 355	Masterpieces of World Literature .....3
CH 208	Organic Chemistry .....5	HF 201	Orchard Mgt. ....5	EH 365	Southern Literature .....3
CH 301	Biochemistry .....5	HF 308	Vegetable Gardening .....5	EH 385	The Impact of Sci. & Tech. upon Modern Literature .....3
MH 113	Analytic Geo. ....5	HF 421	Arboriculture .....5	HY 206	American Gov. ....5
MH 201	Calculus I .....5			HY 322	The U.S. in World Affairs .....3
MH 202	Calculus II .....5			HY 407	Political Science .....5
PS 217	Astronomy .....3			MU 351	Apprec. of Music .....3
ZY 401	Invertebrate Zoology .....5			PA 301	Intro. to Philosophy .....3
ZY 415	Limnology .....5			PA 302	Intro. to Ethics .....3
ZY 416	Organic Evolution .....3			PA 307	Scientific Reason. ....5
				PG 211	Gen. Psychology .....5
				RE 301	Religion and Modern Thought .....3

Students desiring to major in Botany should contact the Head of the Department as soon as possible in their college careers, so that they may be assigned to an advisor. Electives will be chosen after consultation with their advisors to fit their interest and needs.

## Zoology Major

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BY 201	General Botany .....5	BY 202	General Botany .....5	*CH 203	Organic Chemistry .....5
CH 105	Gen. Chemistry .....3	CH 206	Quant. Analysis .....5	EC 200	Gen. Economics .....5
CH 105L	Gen. Chem. Lab. ....2	PS 206	Physics .....5	EH 304	Tech. Writing .....3
PS 205	Physics .....5	MS	Military Training .....1	SP 305	Public Speaking .....3
MS	Military Training .....1	PE	Physical Education .....1	MS	Military Training .....1
PE	Physical Education .....1			PE	Physical Education .....1

## JUNIOR YEAR

ZY 301	Comparative Anat. ....5	ZY 302	Vertebrate Embryology .....5	ZY 400	Genetics .....5
ZY 311	Gen. Parasitology .....5	ZY 424	Animal Physiology .....5	ZY 409	Histology .....5
ZY 304	Gen. Entomology .....5		Electives .....8		Electives .....8
	Elective .....3				

\* CH 207 may be substituted.

## SENIOR YEAR

## FIRST QUARTER

BY 413	Gen. Plant Ecology	5
VM 420	Gen. Microbiology	5
ZY 420	Vertebrate Zool.	5
	Elective	3

## SECOND QUARTER

ZY 308	Micrology	5
ZY 401	Invertebrate Zool.	5
	Electives	8

## THIRD QUARTER

BY 406	Systematic Botany	5
ZY 415	Limnology	5
	Electives	8

Total—211 quarter hours

## RECOMMENDED ELECTIVES

BY 401	Prin. of Biometry	5
CH 301	Biochemistry	5
CH 407-8	Phys. Chemistry	10
CH 341	Geology	5
EC 102	Prin. of Geography	5

FL 121-2	French	10
FL 131-2	Spanish	10
FL 151-2	German	10
PA 301	Philosophy	5

ZY 205	Wildlife Cons.	3
ZY 206	Conserva. in U.S.	3
ZY 303	Medical Parasitol.	5
ZY 207	Birds	3
ZY 210	Fish Culture	5

## Entomology Major

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

BY 201	Botany	5
PS 204	Physics	5
ZY 304	Gen. Entomology	5
MS	Military Training	1
PE	Physical Education	1

## SECOND QUARTER

BY 202	Botany	5
CH 105	Gen. Chemistry	3
CH 105L	Gen. Chem. Lab.	2
EH 304	Tech. Writing	3
SP 305	Public Speaking	3
MS	Military Training	1
PE	Physical Education	1

## THIRD QUARTER

CH 206	Quant. Analysis	5
HF 221	Landscape Gard.	5
HF 308	Vegetable Gard.	5
MS	Military Training	1
PE	Physical Education	1

## JUNIOR YEAR

CH 207	Organic Chemistry	5
ZY 301	Comp. Anatomy	5
	Electives	8

*AY 401	Forage Crops	5
BY 309	Plant Diseases	5
CH 208	Organic Chemistry	5
	Elective	3

AH 200	Intro. An. Husb.	5
ZY 402	Economic Ento.	5
ZY 406	Beekeeping	5
	Elective	3

## SENIOR YEAR

AN 303	Farm Machinery	5
VM 420	Gen. Microbiology	5
ZY 311	Parasitology	5
	Elective	3

ZY 401	Invertebrate Zool.	5
ZY 410	Systematic Ento.	5
ZY 424	Animal Physiology	5
	Elective	3

BY 406	Systematic Botany	5
ZY 400	Genetics	5
ZY 404	Medical Entomology	5
	Elective	3

\* Or AY 201 or AY 404.

Total—211 quarter hours

## RECOMMENDED ELECTIVES

AN 301	Drainage & Ter.	5
AY 201	Grain Crops	5
AY 304	General Soils	5
AY 402	Soil Fertility	5
AY 404	Cotton Production	5
BY 401	Prin. of Biometry	5
CH 407-8	Phys. Chemistry	10
CH 418-19-20	Biochemistry	15

FY 313	Farm Forestry	5
FL 121-2	French	10
FL 131-2	Spanish	10
FL 151-2	German	10
HF 201	Orchard Mgt.	5
PH 301	General Poultry	5
ZY 302	Vertebrate Embry.	5

ZY 206	Conserva. in U.S.	3
ZY 205	Wildlife Cons.	3
ZY 303	Medical Parasitol.	5
ZY 207	Birds	3
ZY 308	Micrology	5
ZY 210	Fish Culture	3
ZY 426	Game Mgt.	5

Fisheries Management Major<sup>1</sup>

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

BY 201	General Botany	5
MH 113	Analytic Geometry	5
PS 205	Physics	5
MS	Military Training	1
PE	Physical Education	1

## SECOND QUARTER

BY 202	General Botany	5
CH 105	Gen. Chemistry	3
CH 105L	Gen. Chem. Lab.	2
PS 206	Physics	5
MS	Military Training	1
PE	Physical Education	1

## THIRD QUARTER

CH 206	Quant. Analysis	5
BY 306	Elem. Plant Physiology	5
EC 200	Gen. Economics	5
MS	Military Training	1
PE	Physical Education	1

<sup>1</sup> Students majoring in this field should arrange to spend at least two months with a state or federal agency on some phase of fisheries work before graduation, preferably during the summer following the junior year.

## JUNIOR YEAR

## FIRST QUARTER

*BY 410	Aquatic Plants .....	5
*ZY 414	Aquatic Insects .....	5
ZY 304	General Ento. ....	5
	Elective .....	3

## SECOND QUARTER

BY 413	Gen. Plant Ecology ..	5
ZY 301	Comp. Anatomy .....	5
ZY 311	Gen. Parasitology .....	5
	Elective .....	3

## THIRD QUARTER

CH 203	Organic Chemistry ..	5
ZY 424	Animal Physiology ..	5
ZY 428	Hatchery Mgt. ....	5
	Elective .....	3

## SENIOR YEAR

AY 304	Soils .....	5
ZY 415	Limnology .....	5
ZY 429	Pond Construction ..	5
	Elective .....	3

BY 401	Biometry .....	5
VM 420	Gen. Microbiology ..	5
ZY 413	Ecology & Identifi- cation of Fishes .....	5
	Elective .....	3

EH 304	Tech. Writing .....	3
SP 305	Public Speaking .....	3
ZY 401	Invertebrate Zool. ....	5
	Electives .....	7

\*The student's attention is called to the fact that these two subjects are offered only during the summer of even-numbered years.

## Total—210 quarter hours

## RECOMMENDED ELECTIVES

AN 401	Farm Power .....	5
AY 402	Soil Fert. ....	5
BY 406	Systematic Botany ..	5
BY 306	Plant Physiology .....	5
CH 301	Biochemistry .....	5
CH 342	Geology .....	3
CH 407-8	Phys. Chemistry 10	
EG 102	Engineering Dr. I ..	2

FL 121-2	French .....	10
FL 131-2	Spanish .....	10
FL 151-2	German .....	10
IL 102	Welding Science and Appl. ....	1
IL 103	Machine Tool Lab. ..	1
MH 201	Calculus I .....	5
MH 202	Calculus II .....	5

PA 301	Philosophy .....	3
ZY 205	Wildlife Cons. ....	3
ZY 206	Cons. in U.S. ....	3
ZY 207	Birds .....	3
ZY 308	Micrology .....	5
ZY 400	Genetics .....	5
ZY 409	Histology .....	5
ZY 426	Game Mgt. ....	3

## Game Management Major

## FRESHMAN YEAR

(Same as in Agricultural Science)

## SOPHOMORE YEAR

## FIRST QUARTER

BY 201	General Botany .....	5
CH 105	Gen. Chemistry .....	3
CH 105L	Gen. Chem. Lab. ....	2
ZY 304	General Ento. ....	5
MS	Military Training ..	1
PE	Physical Education ..	1

## SECOND QUARTER

BY 202	General Botany .....	5
CH 206	Quant. Analysis .....	5
EH 304	Tech. Writing .....	3
SP 305	Public Speaking .....	3
MS	Military Training ..	1
PE	Physical Education ..	1

## THIRD QUARTER

AN 301	Drainage & Ter. ....	5
CH 203	Organic Chemistry ..	5
PS 204	General Physics .....	5
MS	Military Training ..	1
PE	Physical Education ..	1

AY 304	General Soils .....	5
VM 420	Gen. Microbiology ..	5
ZY 420	Vertebrate Zool. ....	5
	Elective .....	3

FY 313	Farm Forestry .....	5
ZY 301	Comparative Anat. ....	5
ZY 302	Vertebrate Embry. ....	5
	Elective .....	3

AN 303	Farm Machinery .....	5
AY 401	Forage Crops .....	5
	Electives .....	8

## SENIOR YEAR

BY 413	Ecology .....	5
ZY 426	Game Mgt. ....	5
ZY 311	Gen. Parasitology ..	5
	Elective .....	3

ZY 308	Micrology .....	5
ZY 410	Systematic Ento. ....	5
ZY 424	Animal Physiology ..	5
	Elective .....	3

BY 406	Systematic Botany ..	5
ZY 400	Genetics .....	5
	Electives .....	8

<sup>1</sup> Or CH 207.

## Total—211 quarter hours

## RECOMMENDED ELECTIVES

AY 201	Grain Crops .....	5
AY 402	Soil Fert. ....	5
BY 401	Prin. of Biometry ..	5
BY 306	Plant Physiology .....	5
BY 410	Aquatic Plants .....	5
CH 301	Biochemistry .....	5
CH 342	Geology .....	3
EC 102	Prin. of Geog. ....	5

EC 200	Gen. Economics .....	5
EG 102	Engineering Dr. I ..	2
FL 121-2	French .....	10
FL 131-2	Spanish .....	10
FL 151-2	German .....	10
IL 103	Machine Tool Lab. 1	
ZY 205	Wildlife Cons. ....	3
ZY 207	Birds .....	3

ZY 208	Cons. in U.S. ....	3
ZY 210	Fish Culture .....	3
ZY 401	Invertebrate Zool. ....	5
ZY 413	Ecology & Ident. of Fishes .....	5
ZY 414	Aq. Insect Taxon. ....	5
ZY 415	Limnology .....	5

# School of Air Science

COLONEL RALPH L. WILLIAMS  
*Commandant and Professor of Air Science*

THE AIR FORCE ROTC was instituted at Auburn University in the Fall of 1946 for the purpose of training AFROTC cadets who have the qualities and attributes essential to their progressive and continued development as officers in the reserve and regular Air Force.

The instruction is designed to provide the Air Force ROTC students with a knowledge and understanding of the characteristics and capabilities of Air Power; and the principal weapons, operational factors, and organizational units which the United States Air Force employs in accomplishing its functions.

The curriculum in Air Science is divided into two courses, basic and advanced. A description of these courses, requirements for entrance, etc., is outlined below.

## Basic Course

The Air Force course of study normally pursued by the student during his freshman and sophomore academic years is commonly referred to as the AFROTC Basic Course. One credit hour is allowed for each quarter of the two-year basic course successfully completed. Leadership Laboratory (drill) is scheduled each Tuesday and Thursday from 1:00 to 2:00 p.m.

In the freshman year classroom activity of three hours per week is required during one quarter. During the two quarters when drill only (Leadership Laboratory) is taken, some other course being pursued normally in another school will be designated by the Professor of Air Science as fulfilling ROTC compulsory requirements. This course will be indicated at the AFROTC registration desk at the time of registration. University courses acceptable for AFROTC credit are in the fields of mathematics, physical or natural sciences, foreign languages, the humanities or social sciences. Credit for the AFROTC course during the two quarters when drill only is taken, will be withheld until the AFROTC designated course is passed.

In addition to the classroom activity six quarters of Leadership Laboratory (drill) must be successfully completed to satisfy the University's military requirement in the Basic ROTC course. In the sophomore year in addition to drill ROTC classes are taken two hours per week for all three quarters.

## Advanced Course

Advanced Air Force ROTC is a program designed to provide highly qualified junior officers for the United States Air Force. Enrollment in the Advanced Course is based upon such factors as leadership, qualification and desire for flying training, academic major, scholastic achievement, and physical qualifications. Successful completion of the Advanced Course qualifies the student for consideration of appointment as a Second Lieutenant in the USAF.

The Advanced Course consists of a six-quarter course, normally taken during the junior and senior years. Three credit hours are allowed for each quarter of the advanced course. For limitation on credit allowed toward meeting engineering degree requirements, see engineering curricula. Six hours of instruction are taken per week, four classroom periods and two leadership

laboratory periods. Students are paid at the rate of 90 cents per day while enrolled in the Advanced Course.

An advanced student selected for enrollment in Category I (Pilot) will be given 36½ hours of actual flying and 35 hours of ground instruction, which may qualify him for a private flying certificate.

An AFROTC summer training period of four weeks duration must be attended by the student before he becomes eligible for a commission. Summer training is normally attended during the summer between the junior and senior years. Uniforms, quarters and rations are furnished by the government during the training period as well as travel expenses to and from camp. The qualifications for the advanced course are:

1. United States Citizenship.
2. Be physically qualified in accordance with standards prescribed by the Department of the Air Force.
3. Not have reached 28 years of age at time of graduation and completion of the Advanced Course for an appointment as a Reserve of the Air Force in the grade of Second Lieutenant.
4. Students desiring to qualify for an Aeronautical rating in the USAF must not have reached 26½ years of age at time of graduation and completion of the Advanced Course for an appointment as a Reserve of the Air Force in the grade of Second Lieutenant, and accept an appointment to an Air Force Flight Training School (agree to make formal written application for flight training leading to a military aeronautical rating in the United States Air Force not less than 180 days before scheduled date of graduation).
5. Have at least two academic years to complete for graduation.
6. Be selected by the Professor of Air Science and the President of the institution.
7. Execute a written agreement with the government to complete the two-year Advanced Course training and to attend one summer camp (four weeks) duration preferably at the end of the first year of the Advanced Course. Upon completion of the course of instruction therein to accept an appointment as a Reserve of the Air Force in the grade of Second Lieutenant, if tendered, and agree to serve on active duty as a commissioned officer with the United States Air Force, on being ordered thereto by proper authority, for not less than three consecutive years, in the case of Category II and Category III cadets and not less than five consecutive years, in the case of Category I (Pilot) and Category IA (Navigator), unless sooner relieved of this obligation. (Veterans are exempt from this active duty requirement.)
8. Have completed appropriate basic training (2 years Basic AFROTC) or have equivalent credit in lieu thereof, and attain qualifying scores on required Air Force Officer Qualifying Tests as prescribed by the Department of the Air Force.
9. Veterans who desire to enroll in the Advanced Course, AFROTC, may on the basis of previous honorable active U.S. military service other than six-months active duty for training request a waiver of the Basic Course, or portion thereof, as a requirement for entrance into the Advanced Course. If a student meets all other requirements he will be enrolled at the beginning of his junior year.

### Uniforms and Equipment

Basic Student: Uniform commutation.

Advanced Students: Monetary allowance in lieu of uniforms.

All students are required to deposit the sum of \$30.00 with the Bursar of the University, prior to enrollment in the AFROTC. They are then furnished a uniform in good condition and other necessary supplies through the AFROTC Supply Office. Upon completion of the AFROTC Course of Instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student.

Advanced Air Force students are furnished regulation officer uniforms. These uniforms are purchased by the University which is in turn reimbursed by the Government at a fixed rate. Upon graduation the regulation uniform becomes the property of the advanced student.

### **Distinguished AFROTC Cadets**

The Professor of Air Science may designate as Distinguished AFROTC Cadet an individual who:

1. Possesses outstanding qualities of leadership, high moral character, and definite aptitude for the military service.
2. Has attained an academic standing in the upper 25 percent of his graduating class. An exception may be made only in the case of a Cadet whose standing is in the upper 10 percent of his class in military subjects.
3. Has demonstrated leadership ability through his achievements while participating in recognized campus activities.
4. Has sufficient standing in military subjects which, in conjunction with 1, 2, and 3, above, will warrant his designation as a Distinguished AFROTC Graduate.

Cadets designated as Distinguished AFROTC Cadets may make application for a direct commission in the Regular Air Force at the beginning of their 2nd year Advanced Course, and, if accepted, will be tendered a commission in the Regular Air Force.

### **Distinguished AFROTC Graduates**

The Professor of Air Science may designate as a Distinguished AFROTC Graduate a Cadet who:

1. Was designated a Distinguished AFROTC Cadet and has maintained the required standards between the time and date of graduation.
2. Has completed Air Science IV and AFROTC Summer Training.
3. Has received a baccalaureate degree.

### **Universal Military Training and Service Act Deferments**

Students enrolled in the AFROTC program may be deferred under the provisions of the Universal Military Training and Service Act, as follows:

1. Students so deferred are required to sign an AFROTC deferment agreement. The undergraduate provisions of the agreement require the student to complete the basic course, and to enroll in and complete the advanced course at the proper time, if accepted therefor; and upon completion or termination of the course of instruction therein, to accept a commission, if tendered.
2. This Department will notify the appropriate local Selective Service Board concerning students who have been selected for deferment. Students dropped from Air Force ROTC, failing to meet minimum scholastic requirements, or those not considered potential Advanced Course students will no longer be deferred.
3. Students who decline to fulfill the terms of their AFROTC deferment agreements pertaining to undergraduate work at the institution will be permanently suspended immediately.



# School of Architecture and The Arts

SAMUEL THOMAS HURST, *Dean*

**T**HE SCHOOL OF ARCHITECTURE AND THE ARTS is composed of the Departments of Architecture, Art, Building Technology, Dramatic Arts and Music. Undergraduate degree courses are offered in Architecture, Interior Design, Industrial Design, Applied Art, Building Construction, Dramatic Arts, and Music. Graduate degree courses are offered in Applied Art and Building Construction. The departments of Dramatic Arts and Music offer sound basic training courses in these fields for students wishing to elect a minor or major concentration in them.

## Department of Architecture

The Department of Architecture was established in 1907 and is the oldest in the South. Courses are offered leading to the degrees Bachelor of Architecture and Bachelor of Interior Design.

Admission to the curricula in Architecture and Interior Design is limited, and new students are admitted only in the Fall Quarter each year. Applications must be filed with the Registrar for approval and for subsequent review by the Admissions Committee of the Department of Architecture. Applications will be received until July 1 and after that date may not be considered. All students seeking admission to Architecture and Interior Design must present test scores from at least one of the following college testing programs: American College Testing (ACT), National Merit Scholarship Qualifying Test (NMQT), or the Scholastic Ability Test of the College Entrance Examination Board. Applicants whose academic records indicate the need for guidance testing will be required to report for testing and personal conference with a member of the Committee.

### Architecture

The curriculum in Architecture seeks to prepare the student to take his place as a citizen and as a professional among the practitioners of Alabama and the Southeastern region. Since the building industry is one of the three largest in the nation in terms of expenditure and employment, the architect today must accept a concern for the improvement of the physical environment and assume the leadership in evolving effective procedures toward this end. Therefore, in an era of broad technological advancement, the architect must bring to his work technical knowledge, social insight, creative imagination, and individual integrity.

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture, and the curriculum in Architecture is accredited by the National Architectural Accrediting Board. Training at Auburn University prepares the student for the office experience and the examination required by the registration laws for the practice of architecture in Alabama as well as for examination by the National Council of Architectural Registration Boards.

## Curriculum in Architecture (AR)

## FIRST YEAR

## FIRST QUARTER

AR 101	Basic Design	.....6
EH 101	English Comp.	.....5
MH 111	Intr. College Math.	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

## SECOND QUARTER

AR 102	Basic Design	.....6
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

## THIRD QUARTER

AR 103	Basic Design	.....6
EH 108	Classical Literature	.....5
MH 113	Analytic Geometry	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

## SECOND YEAR

AR 201	Arch. Design	.....4
AR 271	Descriptive Draw.	.....2
MH 201	Calculus I	.....5
PS 205	Physics	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

AR 202	Arch. Design	.....4
AR 272	Descriptive Draw.	.....2
MH 202	Calculus II	.....5
PS 206	Physics	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

AR 203	Arch. Design	.....4
AR 273	Descriptive Draw.	.....2
AR 233	Materials & Constr.	.....5
BT 220	Mech. of Structures	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

## THIRD YEAR

AR 301	Arch. Design	.....5
AR 361	History & Theory of Architecture	.....3
BT 311	Structures I	.....3
EC 200	General Economics Elective	.....3

AR 302	Arch. Design	.....5
AR 362	History & Theory of Architecture	.....3
BT 312	Structures II	.....3
AR 374	Planning	.....2
EC 206	Socio-Economic Foundations or Tech. & Soc. Change	.....3
SY 311	Elective	.....3

AR 303	Arch. Design	.....5
AR 375	Planning	.....5
AR 363	History & Theory of Architecture	.....3
BT 313	Structures III	.....3
	Elective	.....3

## FOURTH YEAR

AR 401	Arch. Design	.....5
AR 461	History & Theory of Architecture	.....3
BT 411	Structures IV	.....3
PG 211	Psychology Elective	.....3

AR 402	Arch. Design	.....5
AR 462	History & Theory of Architecture	.....3
BT 412	Structures V	.....3
BT 452	Bldg. Equipment I Group Elective	.....3 .....5

AR 403	Arch. Design	.....5
AR 463	History & Theory of Architecture	.....3
BT 413	Structures VI	.....3
BT 453	Bldg. Equipment II	.....3
AR 423	Professional Practice Elective	.....2 .....3

Summer Requirement: AR 490 Field Project (2) pre-requisite to AR 502.

## FIFTH YEAR

AR 501	Arch. Design	.....5
AR 521	Professional Practice	.....5
BT 541	Bldg. Equip. III Seminar Group Elective	.....2 .....2 .....5

AR 502	Arch. Design	.....5
AR 512	Design Research	.....2
AR 522	Professional Practice	.....5
AR 532	Materials & Finishes	.....2
AT 331	History of Painting & Sculpture	.....5

AR 503	Arch. Design	.....7
	Seminar	.....5
	Group Elective	.....5

Total—279 quarter hours

Five-hour elective courses will include either three courses in advanced structures or electives chosen from the group electives in Economics, English, Foreign Languages, History, Philosophy, Psychology, Sociology, and Speech.

Three-hour elective courses taken in lieu of Advanced ROTC will be chosen from the following: Art, Economics, English, History, Music, Philosophy, Religion, and Sociology.

Seminars will be chosen from the following list:

AR 558	Seminar in Contemporary Concepts	.....5
AR 559	Seminar in Historical Problems	.....5
AR 560	The Architect and Society	.....2
AR 561	Seminar in Urban Design	.....2

## Honors Program in Architecture

Beginning in the fourth year of the curriculum in Architecture, superior students capable of independent study may be permitted on recommendation of the Committee on Honors Program to pursue an approved sequence of study designed to develop a field of concentration. Following nomination by the Committee, the student shall submit his plan of study for approval and shall embark upon the course during the second quarter. The Program shall comprise a total of 20 hours of credit in the chosen area of study, of which at least 5 hours shall be spent in independent study directed by the Committee. At least 15 hours of normally required elective credit shall be planned as related courses. Appropriate extra assignments in these courses shall be arranged

by the Committee for students enrolled and a high level of performance shall be maintained in all work. At the option of the Committee a comprehensive examination appropriate to the study may be required.

Upon successful completion of the work the candidate shall be awarded the degree Bachelor of Architecture (Honors Program). A total of 281 hours is required for graduation under this Program.

## Interior Design

The curriculum in Interior Design seeks to prepare the student to take his place as a professional specialist in the design of interior space. As such, he expects to assume a responsible role among those who shape physical environment. His primary interest in the development of interiors is concerned with the social, historical and technical implications of those aspects of space, surface and material which distinguish his work. His training will enable him to develop a practice as a private consultant, as a designer of furniture and textiles, and as a valuable associate of the architectural design team.

### Curriculum in Interior Design (ID)

FIRST YEAR			SECOND YEAR			THIRD YEAR		
FIRST QUARTER			SECOND QUARTER			THIRD QUARTER		
AR 101	Basic Design	.....6	AR 102	Basic Design	.....6	AR 103	Basic Design	.....6
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	EH 108	Classical Literature	5
FL 121	Elem. French		FL 122	Elem. French		FL 221	Intermediate French	
	or			or			or	
FL 241	Elem. Italian	.....5	FL 242	Elem. Italian	.....5	FL 341	Intermediate Italian	5
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
SECOND YEAR			THIRD YEAR			FOURTH YEAR		
AR 201	Arch. Design	.....4	AR 206	Interior Design	.....4	AR 207	Interior Design	.....4
AR 271	Descriptive Draw.	.....2	AR 272	Descriptive Draw.	.....2	AR 273	Descriptive Draw.	.....2
AR 361	History & Theory of Architecture	.....3	AR 362	History & Theory of Architecture	.....3	AR 363	History & Theory of Architecture	.....3
AR 215	Elements of I.D.	.....2	AR 216	Elements of I.D.	.....2	TT 220	Weaving & Design	.....5
EC 200	Gen. Economics	.....5	AR 233	Materials & Constr.	5	EH 381	Literature of the Age of Reason	.....3
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
THIRD YEAR			FOURTH YEAR			FIFTH YEAR		
AR 305	Interior Design	.....5	AR 306	Interior Design	.....5	AR 307	Interior Design	.....5
AR 461	History & Theory of Architecture	.....3	AR 462	History & Theory of Architecture	.....3	AR 463	History & Theory of Architecture	.....3
PG 211	Psychology	.....5	AR 366	Period Interiors	.....2	AR 367	Contemp. Interiors	.....2
	Group Elective	.....5	SY 311	Tech. & Soc. Ch.	.....3	EC 331	Marketing	.....5
				Group Elective	.....5		General Elective	.....3

Summer Requirement: AR 390 Field Project (2 cr.) pre-requisite to AR 406.

AR 405	Interior Design	.....5	AR 406	Interior Design	.....5	AR 407	Interior Design	.....5
AR 441	Professional Practice	2	AR 442	Professional Practice	2	AR 435	Methods of I.D.	.....5
	Group Elective	.....5	AT 331	History of Painting & Sculpture	.....5	AR 432	Materials & Finishes	2
	Group Elective	.....5		Group Elective	.....5		General Elective	.....3

### Total—214 quarter hours

Five-hour elective courses will be chosen from the group electives in Economics, English, Foreign Languages, History, Philosophy, Psychology, Sociology, and Speech.  
During the third and fourth years adjustment will be made for those students taking ROTC.

### GROUP ELECTIVES

For students in Architecture and Interior Design

BT 521-2-3	Advanced Structures I-II-III	EC 305	Geography of North America
AR 559	Seminar in Historic Problems	EC 341	Business Law
AT 325	Oil Painting	EC 357	Economic History of Europe

EC 358 Economic History of the U.S.  
 EC 452 Comparative Economic Systems  
 EC 460 Economic Development of the South  
 EH 253-4 Literature in English  
 EH 352 Contemporary Fiction  
 EH 353 Contemporary Drama  
 EH 357-8 Survey of American Literature  
 EH 361 History of the English Drama  
 EH 390 Advanced Composition  
 EH 410 European Literature  
 EH 450 Contemporary Poetry  
 FL 121-2 - 221 French  
 FL 131-2 - 231 Spanish  
 FL 241-2 - 341 Italian  
 FL 151-2 - 251 German  
 HY 209 American Government  
 HY 311 Medieval History  
 HY 312 Modern European History

HY 404 Recent American History  
 HY 407 Political Science  
 PA 320 Formal Logic  
 PA 325 Aesthetics  
 PA 410 Ancient and Medieval Philosophy  
 PA 420 Modern Philosophy  
 PA 430 Contemporary Philosophy  
 PG 330 Social Psychology  
 SP 229 Voice and Diction  
 SP 231 Essentials of Public Speaking  
 SP 253 Group Leadership  
 SP 273 Group Discussion  
 SY 201 Introductory Sociology  
 SY 301 Sociology of the Family  
 SY 401 Population Problems  
 SY 403 Regional Sociology  
 SY 405 Urban Sociology

## Department of Building Technology

The Department of Building Technology offers courses concerned with the structural design of buildings, the design of mechanical and other equipment for buildings, the practical application of building materials, the estimation of building costs, methods of construction and field erection procedures. These courses lead to the degree of Bachelor of Building Construction.

### Curriculum in Building Construction (BC)

#### FIRST YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BT 104	Intro. to Building .5	BT 105	Drawing & Proj. ....5	BT 106	Matls. & Constr. ....5
EH 101	English Comp. ....5	EH 102	English Comp. ....5	MH 113	Analytic Geometry .5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	PS 205	Physics .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

#### SECOND YEAR

EC 200	Gen. Economics .....5	EC 213	Engr. Accounting ....5	BT 220	Mech. of Structures 5
MH 201	Diff. Calculus .....5	MH 202	Integral Calculus ....5	EC 214	Cost Control .....5
PS 206	Physics .....5	IL 101	Woodworking .....1	IL 102	Welding Science
IL 104	Sheet Metal		Elective .....5		& Application .....1
	Des. & Fab. ....1	MS	Military Training ....1		Elective .....5
MS	Military Training ....1	PE	Physical Education .1	MS	Military Training ....1
PE	Physical Education .1			PE	Physical Education .1

#### THIRD YEAR

BT 311	Structures I .....3	BT 312	Structures II .....3	BT 313	Structures III .....3
BT 367	History of Bldg. I .3	BT 368	Hist. of Bldg. II .3	BT 369	Hist. of Bldg. III .3
CE 201	Surveying .....5	EC 323	Real Estate .....5	EC 445	Indus. Relations or
	Group Elective .....5		Group Elective .....5	EC 350	Labor Problems ....5
	Adv. ROTC or		Adv. ROTC or		Group Elective .....5
	Elective .....3		Elective .....3		Adv. ROTC or
					Elective .....3

#### FOURTH YEAR

BT 433	Constr. Methods	BT 422	Constr. Prob. II .....5	BT 490	Building Const.
	& Estimating .....5	BT 412	Structures V .....3		Thesis .....7
BT 421	Constr. Prob. I .....5	BT 452	Bldg. Equipment I .3	BT 453	Bldg. Equipment II 3
BT 411	Structures IV .....3		Group Elective .....5		Technical Elective .5
	Elective .....3		Adv. ROTC or		Adv. ROTC or
	Adv. ROTC or		Elective .....3		Elective .....3
	Elective .....3				

Total—218 quarter hours

Normally, five-hour elective courses will be chosen from the group electives in Economics, English, Foreign Languages, History, Psychology, Sociology, Speech, and Town Planning.

Normally, three-hour elective courses taken in lieu of Advanced ROTC will be chosen from the following: Art, Economics, English, History, Music, Philosophy, and Religion.

**GROUP ELECTIVES**

For students in Building Construction

BT 521-2-3 Advanced Structures I-II-III	FL 131-2 - 231 Spanish
EC 305 Geography of North America	FL 241-2 - 341 Italian
EC 341 Business Law	FL 151-2 - 251 German
EC 345 Statistics	HY 206 American Government
EC 357 Economic History of Europe	HY 209 American Government
EC 358 Economic History of the U. S.	HY 311 Medieval History
EC 502 American Industries	HY 312 Modern European History
EC 442 Personnel Management	HY 313 Recent European History
EC 452 Comparative Economic Systems	HY 314 American Colonial History
EC 460 Economic Development of the South	HY 404 Recent American History
EC 475 Economics of Public Utilities	HY 406 The Civil War and Reconstruction
EH 253-4 Literature in English	HY 408 American Political Parties
EH 352 Contemporary Fiction	HY 451 The Far East
EH 353 Contemporary Drama	HY 452 History of Latin America
EH 357-8 Survey of American Literature	HY 460 Great Leaders of History
EH 361 History of the English Drama	HY 482 History of the South
EH 363-4 Eighteenth Century English Literature	PA 307 Scientific Reasoning
EH 371 The American Short Story	PA 325 Aesthetics
EH 372 The American Novel	PA 420 Modern Philosophy
EH 390 Advanced Composition	PG 211 General Psychology
EH 410 European Literature	PG 330 Social Psychology
EH 450 Contemporary Poetry	SY 201 Introductory Sociology
EH 451-2 Shakespeare	SP 231 Essentials of Public Speaking
EH 457 Victorian Literature	SY 301 Sociology of the Family
EH 459 Poetry and Prose of the Elizabethan Period	SY 304 Race and Culture
EH 481-2 English Novel	SY 401 Population Problems
EH 491 American Poetry	SY 402 Social Theory
FL 121-2 - 221 French	SY 403 Regional Sociology
	SY 405 Urban Sociology
	SY 408 Industrial Sociology

Students who desire to take a second degree in Civil Engineering after graduation in Building Construction can do so in a minimum of four quarters, by substituting in the Building Construction curriculum Physics 201, 202, 203 in place of Physics 205, 206; and by taking Route Surveying and Chemistry 103-103L, and 104-104L. By using electives and by carrying a one or two hour overload in some quarters, these substitutions and additions need not prolong the completion of the requirements for the Building Construction degree beyond the normal length of twelve quarters.

The additional training to be obtained from this extra work in Civil Engineering will provide strong supplementary skills for any member of the building industry.

**Co-operative Program in Building Construction**

The curriculum in Building Construction is also offered under the Cooperative Education Program. This plan affords opportunity for a student to combine his college program with practical experience in the building industry. After he is accepted in the Cooperative Program, a student spends alternate quarters between school and his industrial assignment, the latter provided through the Director of the Cooperative Program. The senior year is spent in full time residence at Auburn.

Twelve quarters of residence are required for completion of the curriculum and fulfillment of requirements for the degree Bachelor of Building Construction. The Cooperative Program requires five years for completion and by the end of that time the student will have received almost two years of practical experience in addition to the college work of his normal four-year curriculum.

For further information see page 153.

**Master of Building Construction**

Students holding the degree of Bachelor of Building Construction are eligible to apply to the Dean of the Graduate School for admission to the

graduate course leading to the degree of Master of Building Construction. The candidate must complete satisfactorily the following curriculum, or its equivalent, as approved by the Dean of the Graduate School, totaling 60 quarter hours.

CE 407 Municipal Engineering .....	5
EC 434 Purchasing .....	5
EC 447 Job Evaluation .....	5
BT 605-6-7 Graduate Research in Building .....	15
BT 621-2-3 Graduate Construction Design .....	15
CE 630 Advanced Stress Analysis .....	5
BT 699 Research and Thesis .....	10

## Department of Art

Opportunities for professional careers in art are expanding constantly as business, industry and laymen become increasingly aware of the contribution which the artist makes to commerce as well as to daily living. This contribution is the effective employment of art principles in the designing of products for industry and commerce, and in the advertising and marketing media through which these products are presented to the consumer. In addition to the professional practice of design, new opportunities have arisen for various types of salesmanship, merchandising, promotion and contact work in which a collegiate art background is indicated.

The Department of Art believes that success in any specialized phase of art requires that the student be familiarized first with principles common to all two-dimensional and three-dimensional design. Thus, the various specialized curricula concentrate on similar fundamental courses during the first and second years. Upon this structure innate creative ability and basic technical skills are developed as rapidly as possible.

Five options are offered: Advertising Design, Painting, Illustration, Fashion Illustration and Industrial Design. All lead to the degree of Bachelor of Applied Art.

Students in the School of Education may elect a minor, major, or special major in Art (see page 140). Students in the School of Science and Literature may elect a minor (15 hours) or double minor (30 hours) in Art.

The Department of Art is a member of the National Association of Schools of Art, The National Art Education Association, and The College Art Association.

### Advertising Design

This option is for the student who wishes to do creative work in advertising and related fields. The design principles of visual communication, as well as basic techniques of drawing for reproduction, lettering and typography, are emphasized. Courses in economics, sociology, psychology and other liberal arts subjects relate the visual arts to thought in other fields, and promote an understanding of the function of design in commerce and industry. This breadth of background increases the possibility of future advancement to administrative levels.

Many graduates of this option find employment in advertising agencies, printing and engraving plants, or packaging and display firms. Others freelance or work with publications and in government agencies. An increasing number of graduates are finding the Advertising Design course an excellent background for television designing and promotional marketing.



## Curriculum in Art (AT)

## Advertising Design Option (AT-A)

## FIRST YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AT 101	Freehand Drawing .5	AT 103	Creative Drawing .5	AT 104	Basic Figure Dwg. .5
AT 141	Art Structure .5	AT 112	Perspective .5	AT 221	Modeling .5
EH 101	English Comp. .5	EH 102	English Comp. .5	HY 107	American History .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## SECOND YEAR

AT 201	Life Drawing I .5	AT 223	Water Color .5	AT 323	Adv. Water Color .5
AT 241	General Design .5	HY 208	World History .5	AT 331	Hist. Ptg. & Sculp. .5
EH 253	Lit. in English .5	PG 211	Psychology .5	AT 311	Lettering .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## THIRD YEAR

AT 313	Adv. Layout .5	AT 302	Life Drawing II .5	AT 303	Life Drawing III .5
AT 325	Oil Painting .5	AT 312	Graphic Processes .5	AT 337	Adv. Design II .5
EC 200	Gen. Economics .5	AT 338	Adv. Design I .5	EH 254	Lit. in English .5
	Elective .3		Elective .3		Elective .3

## FOURTH YEAR

AT 425	Figure Painting I .5	AT 355	Illustration I .5	AT 317	Packaging .5
AT 435	Adv. Design III .5	AT 438	Adv. Design IV .5	AT 495	Thesis .5
EC 432	Advertising .5	SY 201	Intro. Sociology .5		Elective .5
	Elective .3		Elective .3		Elective .3

Total—210 quarter hours

## Fashion Illustration

This option prepares students for careers as illustrators of fashion for retail stores, magazines, and advertising agencies. Training in creative drawing and design is co-ordinated with practical work in clothing construction. It is an attractive field for young women.

## Fashion Illustration Option (AT-F)

## FIRST YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AT 101	Freehand Drawing .5	AT 103	Creative Drawing .5	AT 104	Basic Figure Dwg. .5
AT 141	Art Structure .5	AT 112	Perspective .5	HE 105	Clothing I .5
EH 101	English Comp. .5	EH 102	English Comp. .5	HY 107	American History .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## SECOND YEAR

AT 201	Life Drawing I .5	AT 223	Water Color .5	AT 331	Hist. Ptg. & Sculp. .5
AT 241	General Design .5	AT 221	Modeling .5	AT 311	Lettering .5
EH 253	Lit. in English .5	HY 208	World History .5	HE 205	Clothing II .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## THIRD YEAR

AT 302	Life Drawing II .5	AT 312	Graphic Processes .5	AT 362	Fashion II .5
AT 313	Adv. Layout .5	AT 361	Fashion I .5	EC 200	General Economics .5
PG 211	Psychology .5	HE 215	Clothing Design .5	HE 405	Creative Costume Design .5
	Elective .3		Elective .3		Elective .3

## FOURTH YEAR

AT 303	Life Drawing III .5	AT 464	Fashion IV .5	AT 495	Thesis .5
AT 463	Fashion III .5	EH 254	Lit. in English .5		Elective .5
HE 425	Hist. of Costume .5	SY 201	Intro. Sociology .5		Elective .5
	Elective .3		Elective .3		Elective .3

Total—210 quarter hours

## Illustration

This option is for the student who desires to become a pictorial illustrator of books and magazines. Throughout the course, weight is placed on interpre-

tive and meaningful drawing, as well as on the student's sensitivity to design. Creative rather than factual illustration is emphasized.

### Illustration Option (AT-II)

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
AT 101	Freehand Drawing	.5	AT 103	Creative Drawing	.5	AT 104	Basic Figure Dwg.	.5
AT 141	Art Structure	.5	AT 112	Perspective	.5	EH 253	Lit. in English	.5
EH 101	English Comp.	.5	EH 102	English Comp.	.5	HY 107	American History	.5
MS	Military Training	.1	MS	Military Training	.1	MS	Military Training	.1
PE	Physical Education	.1	PE	Physical Education	.1	PE	Physical Education	.1
			SECOND YEAR					
AT 201	Life Drawing I	.5	AT 221	Modeling	.5	AT 302	Life Drawing II	.5
AT 241	General Design	.5	AT 223	Water Color	.5	AT 323	Adv. Water Color	.5
PG 211	Psychology	.5	HY 208	World History	.5	EH 254	Lit. in English	.5
MS	Military Training	.1	MS	Military Training	.1	MS	Military Training	.1
PE	Physical Education	.1	PE	Physical Education	.1	PE	Physical Education	.1
			THIRD YEAR					
AT 303	Life Drawing III	.5	AT 326	Adv. Oil Painting	.5	AT 304	Life Drawing IV	.5
AT 325	Oil Painting	.5	AT 331	Hist. Ptg. & Sculp.	.5	AT 312	Graphic Processes	.5
AT 311	Lettering	.5	AT 355	Illustration I	.5	AT 356	Illustration II	.5
	Elective	.3		Elective	.3		Elective	.3
			FOURTH YEAR					
AT 313	Adv. Layout	.5	AT 425	Figure Painting I	.5	AT 495	Thesis	.5
AT 457	Illustration III	.5	AT 458	Illustration IV	.5		Elective	.5
EC 200	General Economics	.5	SY 201	Intro. Sociology	.5		Elective	.5
	Elective	.3		Elective	.3		Elective	.3

Total—210 quarter hours

### Industrial Design

In recent years, progressive manufacturers have discovered the indispensable advantage of marketing products that have been designed for maximum utility and attractiveness. This need has called forth the entirely new profession of Industrial Design. The Industrial Designer works with manufacturers as a specialist to produce a design which is fully developed before production starts, which takes advantage of the best in industrial materials and processes.

In all types of manufactured articles, from fountain pens to automobiles, the touch of the modern Industrial Designer is constantly seen today. Because these products are better adapted to their intended use and at the same time display attractive and expressive forms, the Industrial Designer through his imaginative and creative work makes a valuable contribution to the daily life of almost every citizen.

### Industrial Design Option (AT-IN)

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
AT 101	Freehand Drawing	.5	AT 112	Perspective	.5	AT 103	Creative Drawing	.5
EH 101	English Comp.	.5	AT 141	Art Structure	.5	AT 241	General Design	.5
MH 111	Intro. College Math.	.5	EH 102	English Comp.	.5	MH 112	Intr. College Math.	.5
MS	Military Training	.1	MS	Military Training	.1	MS	Military Training	.1
PE	Physical Education	.1	PE	Physical Education	.1	PE	Physical Education	.1
			SECOND YEAR					
AT 271	Introduction to Industrial Design	.5	AT 223	Water Color	.5	AT 321	Adv. Modeling	.5
AT 104	Basic Figure Dwg.	.5	AT 221	Modeling	.5	AT 311	Lettering	.5
PS 204	Physics	.5	AT 216	Mat. & Processes	.5	HY 107	American History	.5
MS	Military Training	.1	MS	Military Training	.1	IL	Shop Elective	.1
PE	Physical Education	.1	PE	Physical Education	.1	MS	Military Training	.1
			THIRD YEAR					
AT 317	Packaging	.5	AT 331	Hist. Ptg. & Sculp.	.5	AT 373	Indus. Design III	.5
AT 371	Indus. Design I	.5	AT 372	Indus. Design II	.5	EC 331	Marketing Prin.	.5
HY 208	World History	.5	EC 200	General Economics	.5	EH 253	Lit. in English	.5
	Elective	.3		Elective	.3		Elective	.3

FOURTH YEAR		
FIRST QUARTER		THIRD QUARTER
AT 471 Indus. Design IV .5	AT 312 Graphic Processes .5	AT 495 Thesis .5
PG 211 Psychology .5	AT 472 Indus. Design V .5	SP 231 Essentials of
Elective .5	EH 254 Lit. in English .5	Public Speaking .5
Elective .3	Elective .3	Elective .5
		Elective .3

Total—211 quarter hours

### Painting

This option is for the student who wishes to become a professional painter. Emphasis is placed on the development of the interpretive and expressive powers of the student and the co-ordinating of these with technical proficiency in the various media.

### Painting Option (AT-P)

FOURTH YEAR		
FIRST QUARTER		THIRD QUARTER
AT 101 Freehand Drawing .5	AT 103 Creative Drawing .5	AT 104 Basic Figure Dwg. .5
AT 141 Art Structure .5	AT 112 Perspective .5	AT 221 Modeling .5
EH 101 English Comp. .5	EH 102 English Comp. .5	HY 107 American History .5
MS Military Training .1	MS Military Training .1	MS Military Training .1
PE Physical Education .1	PE Physical Education .1	PE Physical Education .1
SECOND YEAR		
AT 201 Life Drawing I .5	AT 223 Water Color .5	AT 323 Adv. Water Color .5
AT 241 General Design .5	HY 208 World History .5	AT 331 Hist. Ptg. & Sculp. .5
EH 253 Lit. in English .5	PG 211 Psychology .5	AT 311 Lettering .5
MS Military Training .1	MS Military Training .1	MS Military Training .1
PE Physical Education .1	PE Physical Education .1	PE Physical Education .1
THIRD YEAR		
AT 325 Oil Painting .5	AT 326 Adv. Oil Painting .5	AT 425 Figure Painting I .5
AT 302 Life Drawing II .5	AT 303 Life Drawing III .5	AT 304 Life Drawing IV .5
EC 200 General Economics .5	AT 312 Graphic Processes .5	SY 201 Intro. Sociology .5
Elective .3	Elective .3	Elective .3
FOURTH YEAR		
AT 426 Figure Painting II .5	AT 452 Pictorial Design II .5	AT 495 Thesis .5
AT 451 Pictorial Design I .5	PG 360 Appl'd Psychology .5	Art Elective .5
EH 254 Lit. in English .5	Elective .5	Elective .5
Elective .3	Elective .3	Elective .3

Total—210 quarter hours

### Graduate Work in Art

Students who hold the degree of Bachelor of Applied Art, Fine Arts, or a similar degree, are eligible to apply to the Dean of the Graduate School for admission to the graduate course leading to the degree Master of Applied Art. For details examine the Bulletin of the Graduate School.

## Department of Dramatic Arts

The courses in Dramatic Arts offer to those interested in the various aspects of the theatre a well-balanced combination of theoretical study and practical work in play production, acting, and stagecraft. Class work is closely associated with the university dramatic group, the Auburn Players. Students in all courses with laboratory are expected to participate in the production of plays. Much attention is given to those who intend to direct dramatic work in schools and little theatres.

For the layman who desires an appreciative understanding of the theatre, the courses, Dramatic Production, Acting and Stage Techniques, Directing, Acting and Makeup, Stage Mechanics, Dramatic Theory, Drama Appreciation I and II, and the general course in theatre work, Dramatics, may be elected. Students from all schools are welcomed at the tryouts of the Auburn Players. For the student wishing to major in Dramatic Arts a full program of courses

is offered leading to the Bachelor of Arts degree, with options in Directing and Stagecraft. Dramatic Arts may be taken as a major or minor in the School of Education (See page 141) or as a minor in the School of Science and Literature (See page 183).

### Curriculum in Dramatic Arts (DR)

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
DR 101	Dram. Production	.5	DR 102	Acting and Stage Techniques	.5	DR 201	Directing	.5
EH 101	English Comp.	.5	EH 102	English Comp.	.5	*FL221	Interm. French	.5
*FL121	Elem. French	.5	*FL122	Elem. French	.5	PG 211	Psychology	.5
MS	Military Training	.1	MS	Military Training	.1	MS	Military Training	.1
PE	Physical Education	.1	PE	Physical Education	.1	PE	Physical Education	.1
			SECOND YEAR					
DR 202	Acting & Make-Up	.5	DR 203	Stage Mechanics	.5	DR 204	Dramatic Theory	.5
EH 253	Lit. in English	.5	EH 254	Lit. in English	.5	HY 208	World History	.5
SP 229	Voice & Diction**	.5	HY 207	World History	.5	SY 201	Intro. Sociology	.5
MS	Military Training	.1	MS	Military Training	.1	MS	Military Training	.1
PE	Physical Education	.1	PE	Physical Education	.1	PE	Physical Education	.1
			THIRD YEAR					
DR 310	World Theatre	.5	AT 331	Hist. Ptg. & Sc.	.5	DR 312	World Theatre	.5
EH 410	European Lit.	.5	DR 311	World Theatre	.5	EH 452	Shakespeare	.5
MU 101	Fund. of Music	.3	EH 451	Shakespeare	.5	MU 354	Music History	.3
	Elective	.5	MU 353	Music History	.3		Elective	.5
			FOURTH YEAR					
DR 401	Adv. Directing	.5	DR 402	Adv. Directing	.5	DR 403	Adv. Directing	.5
DR 413	Twentieth Century Theatre	.5		Elective	.5		Elective	.5
	Elective	.5		Elective	.5		Elective	.5
	General Elective	.3		General Elective	.3		General Elective	.3

\* Another language may be substituted for French with the approval of the Department Head. If a student has already had some foreign language, he would normally be expected to continue with it until a reading knowledge is gained.

\*\* With this single exception, the first two years of work will be the same for all students in Dramatic Arts. In the Stagecraft Option, a substitution will be made for SP 229.

For Stagecraft Majors, DR 407-8-9 would replace DR 401-2-3.

Total—210 quarter hours

## Department of Music

The Department of Music provides instruction and performing experience to students interested in developing their talents in music. The courses of study provided by the Department have been created to present a balance between creative skills and academic studies, allowing at the same time a certain flexibility to meet individual requirements.

The Department of Music offers to the Music Major a four-year curriculum leading to the degree Bachelor of Music, with majors in (A) Applied Music or (B) Theory and Composition. These programs provide preparation for the professional field of performance and for private or college teaching of applied music, theory, and composition. They also provide training for church organists and choir directors.

For the student wishing to major in Music History and Literature, the Department of Music offers a program of studies leading to the Bachelor of Arts degree. This degree is a cultural, not a professional degree.

The Department of Music offers a group of general elective courses of interest and value to all University students that they may acquaint themselves with music as one aspect of a liberal culture either as appreciative listeners or as trained participants. Courses in Applied Music consist of individual instruction in voice and in the playing of the piano, violin, organ, cello, and all wood-

wind and brass instruments. Courses in ensemble playing, band, orchestra, glee clubs, choir, and opera workshop are also offered to students in all curricula.

### Professional Curriculum in Music (MU)

#### (A) Applied Music Major

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	HY 107	Am. History	.....5
MU 131	Music Theory I	.....3	MU 132	Music Theory II	.....3	MU 133	Music Theory III	.....3
MU 151	Survey of Mu. Lit.	.....1	MU 152	Survey of Mu. Lit.	.....1	MU 153	Survey of Mu. Lit.	.....1
MU	Major Instrument	.....3	MU	Major Instrument	.....3	MU	Major Instrument	.....3
MU	*Minor Instrument	.....1	MU	*Minor Instrument	.....1	MU	*Minor Instrument	.....1
MU	Perf. Group	.....1	MU	Perf. Group	.....1	MU	Perf. Group	.....1
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Ensemble	.....1
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
			SECOND YEAR					
EH 253	English Lit.	.....5	EH 254	English Lit.	.....5	HY 208	World History	.....5
MU 231	Music Theory IV	.....3	MU 232	Music Theory V	.....3	MU 233	Music Theory VI	.....3
MU 251	Survey of Mu. Lit.	.....1	MU 252	Survey of Mu. Lit.	.....1	MU 253	Survey of Mu. Lit.	.....1
MU	Major Instrument	.....3	MU	Major Instrument	.....3	MU	Major Instrument	.....3
MU	Minor Instrument	.....1	MU	Minor Instrument	.....1	MU	Minor Instrument	.....1
MU	Perf. Group	.....1	MU	Perf. Group	.....1	MU	Perf. Group	.....1
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Ensemble	.....1
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
			THIRD YEAR					
FL	Foreign Language	.....5	FL	Foreign Language	.....5	FL	Foreign Language	.....5
MU 334	Counterpoint I	.....3	MU 335	Counterpoint II	.....3	MU 336	Counterpoint III	.....3
MU 351	Music History I	.....3	MU 352	Music History II	.....3	MU 353	Music History III	.....3
MU	Major Instrument	.....3	MU	Major Instrument	.....3	MU	Major Instrument	.....3
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Ensemble	.....1
MU	Elective	.....3	MU	Elective	.....3	MU	Elective	.....3
			FOURTH YEAR					
MU 377	Arranging	.....3	MU 432	Music Analysis	.....3	SY 201	Intro. Socio.	.....5
MU 431	Music Analysis	.....3	EC 200	Gen. Economics	.....5	MU 361	Conducting	.....3
MU	Major Instrument	.....3	MU	Major Instrument	.....3	MU	Applied Lit.	.....3
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Major Instrument	.....3
MU	Elective	.....5	MU	Applied Pedagogy	.....3	MU	Ensemble	.....1
MU	Elective	.....3	MU	Elective	.....3	MU	Elective	.....3

\* Minor instrument must be piano for non-piano majors.

Total—210 quarter hours

#### (B) Theory and Composition Major

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	HY 107	Am. History	.....5
MU 131	Music Theory I	.....3	MU 132	Music Theory II	.....3	MU 133	Music Theory III	.....3
MU 151	Survey of Mu. Lit.	.....1	MU 152	Survey of Mu. Lit.	.....1	MU 153	Survey of Mu. Lit.	.....1
MU 181	Applied Piano	.....2	MU 182	Applied Piano	.....2	MU 183	Applied Piano	.....2
MU 116	Woodwind Class	.....1	MU 117	Woodwind Class	.....1	MU 118	Woodwind Class	.....1
MU 110	String Class	.....1	MU 111	String Class	.....1	MU 112	String Class	.....1
MU	Perf. Group	.....1	MU	Perf. Group	.....1	MU	Perf. Group	.....1
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Ensemble	.....1
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
			SECOND YEAR					
EH 253	English Lit.	.....5	EH 254	English Lit.	.....5	HY 208	World History	.....5
MU 231	Music Theory IV	.....3	MU 232	Music Theory V	.....3	MU 233	Music Theory VI	.....3
MU 251	Survey of Mu. Lit.	.....1	MU 252	Survey of Mu. Lit.	.....1	MU 253	Survey of Mu. Lit.	.....1
MU 107	Voice Class	.....1	MU 108	Voice Class	.....1	MU 119	Percussion Class	.....1
MU 113	Brass Class	.....1	MU 114	Brass Class	.....1	MU 115	Brass Class	.....1
MU 281	Applied Piano	.....2	MU 282	Applied Piano	.....2	MU 283	Applied Piano	.....2
MU	Perf. Group	.....1	MU	Perf. Group	.....1	MU	Perf. Group	.....1
MU	Ensemble	.....1	MU	Ensemble	.....1	MU	Ensemble	.....1
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1

## THIRD YEAR

FIRST QUARTER	
FL	Foreign Language .5
MU 334	Counterpoint I .3
MU 351	Music History I .3
MU 331	Modern Harmony .3
MU 381	Applied Piano .1
	Elective .3

SECOND QUARTER	
FL	Foreign Language .5
MU 335	Counterpoint II .3
MU 352	Music History II .3
MU 454	Instrumental Lit. .3
MU 382	Applied Piano .1
	Elective .3

THIRD QUARTER	
FL	Foreign Language .5
MU 336	Counterpoint III .3
MU 353	Music History III .3
MU 361	Conducting .3
MU 383	Applied Piano .1
	Elective .3

## FOURTH YEAR

MU 431	Music Analysis .3
MU 434	Composition I .3
MU 437	Orchestration I .3
MU 481	Applied Piano .1
	Elective .5
	Elective .3

MU 432	Music Analysis .3
MU 435	Composition II .3
MU 438	Orchestration II .3
MU 482	Applied Piano .1
EC 200	Gen. Economics .5
	Elective .3

SY 201	Intro. Sociology .5
MU 436	Composition III .3
MU 439	Orchestration III .3
MU 483	Applied Piano .1
MU 445	Theory Pedagogy .3
	Elective .3

Total—210 quarter hours

Supplementary Requirements for the Professional Degree—  
Bachelor of Music

1. Students concentrating in Applied Music are required to present a junior recital near the close of the third year, and a senior graduation recital during the last year of study.

2. Students concentrating in Music Theory and Composition are required to present an original composition in small form near the close of the third year and a composition in large form during the last year of study.

3. Attendance and performance at student convocations each Wednesday are compulsory.

## Curriculum in Music (MU)

## FIRST YEAR

FIRST QUARTER	
EH 101	English Comp. .5
FL	Foreign Language .5
MU 131	Music Theory I .3
MU 151	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

SECOND QUARTER	
EH 102	English Comp. .5
FL	Foreign Language .5
MU 132	Music Theory II .3
MU 152	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

THIRD QUARTER	
FL	Foreign Language .5
HY 107	American History .5
MU 133	Music Theory III .3
MU 153	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

## SECOND YEAR

EH 253	English Lit. .5
HY 207	World History .5
MU 231	Music Theory IV .3
MU 251	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

EH 254	English Lit. .5
HY 208	World History .5
MU 232	Music Theory V .3
MU 252	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

EC 200	Gen. Economics .5
SY 201	Intro. Sociology .5
MU 233	Music Theory VI .3
MU 253	Survey of Mu. Lit. .1
MU	Applied Music .2
MS	Military Training .1
PE	Physical Education .1

## THIRD YEAR

MU 351	Music History I .3
MU 334	Counterpoint I .3
PG 211	Gen. Psychology .5
	*Minor .5

MU 352	Music History II .3
	*Science or Math. .5
	*Minor .5
	Elective .5

MU 353	Music History III .3
MU 451	Music Literature .3
	*Minor .5
	Elective .5

## FOURTH YEAR

MU 365	Arranging .3
MU 431	Analysis .3
MU 452	Music Literature .3
	*Minor .5
	Elective .3

MU 432	Music Analysis .3
MU 453	Music Literature .3
	*Minor .5
	Electives .6

AT 331	His. Ptg. & Sculp. .5
MU 361	Conducting .3
MU 454	Music Literature .3
	*Minor .5
	Elective .2

Total—210 quarter hours

\* Two minors of 15 quarter hours each will be elected from approved courses in foreign languages and history. Except for foreign languages, subjects must be numbered 200 or above.

\*\* One of the following courses must be selected: PS 204, BY 201, ZY 101, MH 107, MH 181.



### Supplementary Requirements for Bachelor of Arts Degree

1. The music courses for the degree are divided into Lower and Upper Divisions. Majors must complete (a) 36 quarter hours of music in the Lower Division (18 hours of theory, 12 hours of applied music, and 6 hours of music literature); (b) a minimum of 36 hours of music in the Upper Division.

2. A comprehensive examination will be given at the end of the sophomore year which must be passed before the student proceeds to the Upper Division music courses.

3. Students concentrating in Music History and Literature are required to write a thesis during the last year of study.

4. History and Literature majors must complete sophomore NASM applied music standards. To meet these requirements additional applied music beyond the second year may be required.

5. Participation in the work of music performance groups is required each quarter with or without credit.

6. Attendance and performances at student convocations each Wednesday are compulsory.

### Music Education

For the student wishing to become a teacher of music, the Department of Music offers a full program of studies in conjunction with the School of Education leading toward certification by the State Department of Education.

#### Program for Minor in Music

School of Education, see page 142.

#### Program for Major in Music

School of Education, see page 142.

#### Program for Composite Major-Minor in Music

School of Education, see page 142.

### Supplementary Requirements for Music Majors and Minors

1. Music Majors and Minors are required to participate in the work of music performance groups (concert choir, band, or orchestra).

2. Attendance and performances at student convocations each Wednesday are compulsory for Music Majors.

### Music Organizations

The several musical organizations, sponsored by the college and directed by the Department of Music, provide excellent training in group music. See index under "Music Organizations." These activities, which are open to students of the university, may be taken without credit, or offered as general elective credit.

### Graduate Work in Music

Students who hold a baccalaureate degree in Education with a Major in Music are eligible to apply to the Dean of the Graduate School for admission to the graduate courses leading to the degrees Master of Science and Master of Education with Major in Music. The candidate must complete satisfactorily the following curriculum totaling 45 quarter hours.

Education Foundation Courses .....	15
Music and Music Education Courses .....	30

# School of Chemistry

CHARLES RICHARD SAUNDERS, *Dean*

THE SCHOOL OF CHEMISTRY offers four-year curricula leading to the degrees of Bachelor of Science in Chemistry, Chemical Engineering, and Laboratory Technology, and advanced work leading to the degrees Master of Science in Chemistry, and Chemical Engineering and to the degree Doctor of Philosophy. The administrative offices, the Emerson R. Miller Library, the auditorium, and the departments of chemistry and laboratory technology are located in the Ross Chemical Laboratory. The department of chemical engineering occupies approximately one-fourth of the Wilmore Engineering Laboratory. This laboratory is conveniently located with respect to the Ross Chemical Laboratory and provides modern and adequate facilities.

## Department of Chemistry

The curriculum in chemistry meets the standards of the accrediting committee of the American Chemical Society. It affords preparation and training for students desiring to equip themselves for work in both pure and applied chemistry.

The curriculum offers training in the fundamentals of the science together with advanced courses in chemistry and physics. General electives are selected from fields especially for their cultural value. All electives must be approved by the dean.

Mathematics 111 or 107 must be satisfactorily completed before, or taken concurrently with, General Chemistry 103 or 111.

### Curriculum in Chemistry (CH)

#### FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 111	General Chemistry ..5	CH 112	General Chemistry ..5	CH 113	General Chemistry ..5
EH 101	English Comp. ....5	EH 102	English Comp. ....5	HY 107	American History ....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	MH 161	Analytic Geometry & Calculus .....5
*LY101	Library Science .....1	MS	Military Training ....1	MS	Military Training ....1
MS	Military Training ....1	PE	Physical Education ..1	PE	Physical Education ..1
PE	Physical Education ..1				

#### SOPHOMORE YEAR

CH 205	Analytical Chem. ....5	CH 206	Quant. Analysis ....5	CH 209	Adv. Quant. Anal. ..5
MH 262	Analytic Geometry & Calculus .....5	MH 263	Analytic Geometry & Calculus .....5	MH 264	Analytic Geometry & Calculus .....5
PS 201	Physics-Mechanics ..5	PS 202	Physics-Heat, Sound & Light .....5	PS 203	Physics-Elec. & Magnetism .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

#### JUNIOR YEAR

HY 206	American Gov't .....5	CH 207	Organic Chemistry ..5	CH 208	Organic Chemistry ..5
CH 407	Physical Chemistry ..5	CH 408	Physical Chemistry ..5	CH 409	Physical Chemistry ..5
FL 151	Elem. German .....5	FL 152	Elem. German .....5	FL 251	Intermed. German ..5
	General Elective .....3		General Elective .....3		General Elective .....3

\* LY 101 Library Science may be scheduled in any quarter of the freshman year.

## SENIOR YEAR

## SECOND QUARTER

CH 404 Organic Chemistry ..5
PS 304 Spectroscopy .....5
EH 390 Adv. Composition ....5
General Elective .....3

## THIRD QUARTER

CH 405 Organic Chemistry ..5
PS 305 Modern Physics .....5
SP 231 Essentials of Public Speaking .....5
General Elective .....3

FIRST QUARTER	
CH 305 Organic Chemistry ..5	
CH 412 Chem. Thermodynamics .....5	
CH 410 Intern. Inorganic Chemistry .....5	
General Elective .....3	

## Total—211 quarter hours

Women students will take Hygiene in the freshman year and Current Events in the sophomore year in lieu of Military Training.

The following alternative curriculum may be selected by those students interested in the biological sciences.

## Alternate Curriculum in Chemistry (CH)

## FRESHMAN YEAR

## SECOND QUARTER

CH 112 General Chemistry ..5
EH 102 English Comp. ....5
MH 112 Intr. College Math. 5
MS Military Training ....1
PE Physical Education ..1

## THIRD QUARTER

CH 113 General Chemistry ..5
CH 205 Analytical Chem. ....5
MH 161 Analytic Geometry & Calculus .....5
MS Military Training ....1
PE Physical Education ..1

FIRST QUARTER	
CH 111 General Chemistry ..5	
EH 101 English Comp. ....5	
MH 111 Intr. College Math. 5	
*LY101 Library Science ....1	
MS Military Training ....1	
PE Physical Education ..1	

## SOPHOMORE YEAR

CH 207 Organic Chemistry ..5
MH 263 Analytic Geometry & Calculus .....5
ZY 102 General Zoology ....5
MS Military Training ....1
PE Physical Education ..1

CH 208 Organic Chemistry ..5
PS 201 Physics-Mechanics ..5
BY 201 General Botany .....5
MS Military Training ....1
PE Physical Education ..1

CH 206 Quant. Analysis .....5
MH 262 Analytic Geometry & Calculus .....5
ZY 101 General Zoology ....5
MS Military Training ....1
PE Physical Education ..1

## JUNIOR YEAR

CH 408 Physical Chemistry ..5
FL 152 Elem. German .....5
PS 203 Physics-Elec. & Magnetism .....5
General Elective .....3

CH 409 Physical Chemistry ..5
HY 206 American Gov't or
HY 107 American History ....5
FL 251 Intermed. German ..5
General Elective .....3

CH 407 Physical Chemistry ..5
FL 151 Elem. German .....5
PS 202 Physics-Heat, Sound & Light .....5
General Elective .....3

## SENIOR YEAR

CH 419 Biochemistry .....5
VM 220 Human Anatomy & Physiology .....5
SP 231 Essentials of Public Speaking .....5
General Elective .....3

CH 420 Biochemistry .....5
VM 221 Human Anatomy & Physiology .....5
Technical Elective ..5
General Elective .....3

CH 418 Biochemistry .....5
VM 200 General Microbiology .....5
EH 390 Adv. Composition ..5
General Elective .....3

## Total—211 quarter hours

\* LY 101 Library Science may be scheduled in any quarter of the freshman year.

## Department of Chemical Engineering

The rapid growth of the chemical and metallurgical industries, particularly in the South, provides exceptional opportunities for students taking chemical engineering.

The work of the chemical engineer relates to the design, construction, and operation of plants for the production of numerous chemical and industrial products such as coke, cement, petroleum products, paper, synthetic rubber, synthetic fibers, ceramic products and glass.

The program leading to the bachelor's degree in chemical engineering consists almost entirely of broad scientific and engineering principles which have numerous applications in the chemical and related industries. Students who complete the requirements of the master's degree are qualified for better positions and often make more rapid progress than those with only the bachelor's degree.

The broad university training provided, when supplemented by professional experience, enables graduates to qualify for positions as engineers in production, research and development, sales engineering, plant design, and management. Chemical engineers recently are being employed in increasing numbers in nuclear engineering.

The curriculum in chemical engineering is offered under both the regular and the co-operative plan. See the Co-operative Engineering Program on page 153.

For admission to the chemical engineering curriculum, students registered in the Curriculum in Pre-Chemical Engineering must complete all prescribed courses in mathematics with an average of 1.0.

### Curriculum in Pre-Chemical Engineering (PCN)

FIRST YEAR		
FIRST QUARTER		THIRD QUARTER
CH 103 General Chemistry .4	CH 104 General Chemistry .4	CH 105 General Chemistry .3
CH 103L Gen. Chem. Lab. .1	CH 104L Gen. Chem. Lab. .1	CH 105L Gen. Chem. Lab. .2
EH 101 English Comp. .5	EH 102 English Comp. .5	HY 107 American History .5
MH 111 Intr. College Math. 5	MH 112 Intr. College Math. 5	MH 161 Analytic Geometry
EG 102 Eng. Drawing I .2	EG 104 Desc. Geometry .2	& Calculus .5
*LY101 Use of the Library .1	MS Military Training .1	EG 105 Engr. Drawing II .2
MS Military Training .1	PE Physical Education .1	MS Military Training .1
PE Physical Education .1		PE Physical Education .1
SECOND YEAR		
CH 206 Quant. Analysis .5	MH 263 Analytic Geometry	CH 207 Organic Chemistry .5
MH 262 Analytic Geometry	& Calculus .5	MH 264 Analytic Geometry
& Calculus .5	PS 202 Physics-Heat,	& Calculus .5
PS 201 Physics-Mechanics .5	Sound & Light .5	PS 203 Physics-Elec.
Humanistic Elective 3	ME 205 Applied Mechanics .5	& Magnetism .5
MS Military Training .1	Humanistic Elective 3	CN 201 Chem. Engr.
PE Physical Education .1	MS Military Training .1	Fundamentals .2
	PE Physical Education .1	MS Military Training .1
		PE Physical Education .1

\* LY 101 Library Science may be scheduled in any quarter of the freshman year.

### Curriculum in Chemical Engineering (CN)

THIRD YEAR		
CH 208 Organic Chemistry .5	CH 408 Physical Chemistry .5	CN 326 Heat Transfer .5
CH 407 Physical Chemistry .5	CN 324 Fluid Mechanics .4	CN 321 Chemical Process
CN 300 Process Calculations 3	ME 306 Strength of Mat. .5	Industries .3
MH 361 Diff. Equations I .5	Humanistic Elective 6	PS 305 Introduction to
ME 202 Materials of Engr. .3		Modern Physics .5
		SP 305 Public Speaking .3
		Humanistic Elective 5
FOURTH YEAR		
CN 322 Organic Processes	CH 412 Chemical Thermo-	CN 430 Computer Principles 2
& Kinetics .3	Dynamics .5	CN 484 Chem. Engr.
CN 423 Unit Operations .5	CN 424 Mass Transfer .5	Plant Design .4
CN 432 Instrumentation .4	CN 437 Process Engr. .4	CN 490 Applied Thermo-
CN 426 Engr. Metallurgy .5	Humanistic Elective 6	Dynamics .5
Humanistic Elective 3		EE 304 Electric Circuits .5
		Humanistic Elective 3

Total—238 quarter hours

\* Six hours of Advanced ROTC may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

### SUGGESTED ELECTIVES IN HUMANISTIC-SOCIAL STUDIES

EH 108 Classical Literature .5	MU 374 Masterpieces of Music .3
EH 350 Shakespeare's Greatest Plays .3	PA 301 Introduction to Philosophy .3
EH 365 Southern Literature .3	PA 302 Introduction to Ethics .3
HY 208 World History .5	PA 307 Scientific Reasoning .5
HY 322 U.S. in World Affairs .3	PA 420 Modern Philosophy .5
HY 460 Great Leaders .5	PG 311 The Behavior of Man .3
MU 373 Appreciation of Music .3	

## Department of Laboratory Technology

This course is designed for men and women who wish to prepare themselves for clinical and other laboratory positions, such as public health, bacteriology, etc. With certain minor revisions, it can be used also to prepare for the study of medicine or dentistry.

The curriculum is planned for regular students to schedule courses during the Fall, Winter and Spring quarters only. Transfers or freshmen may enter the course at any quarter and use the Summer quarter to fit themselves to the regular program. All who complete the curriculum satisfactorily are eligible to receive the degree Bachelor of Science in Laboratory Technology.

The majority of the graduates enter the field of clinical medicine as medical technologists. They should plan to attain status as Registered Medical Technologists which is accomplished by interning for one year in an approved hospital and then passing the National Registry of Medical Technologists' written examination. If then desired, the additional Bachelor of Science degree in Medical Technology will be granted.

The four-year academic curriculum is recommended. An alternative plan, however, is available for those who plan to become medical technologists and who do not obtain the degree Bachelor of Science in Laboratory Technology. This plan leads to the degree Bachelor of Science in Medical Technology only. To qualify, the student must take the first nine quarters of the curriculum, intern for one year in a hospital approved by the American Society of Clinical Pathologists and by the Dean of the School of Chemistry, and pass the course work in the hospital and the National Registry examination.

### Curriculum in Laboratory Technology (LT)

#### FRESHMAN YEAR

##### FIRST QUARTER

CH 103	General Chemistry	..4
CH 103L	Gen. Chem. Lab.	..1
MH 111	Intr. College Math.	..5
ZY 101	General Zoology	.....5
PW 111	Hygiene	.....1
PW	Physical Education	..1
*LY101	Library Science	.....1

##### SECOND QUARTER

CH 104	General Chemistry	..4
CH 104L	Gen. Chem. Lab.	..1
EH 101	English Comp.	.....5
ZY 102	General Zoology	.....5
PW 112	Hygiene	.....1
PW	Physical Education	..1

##### THIRD QUARTER

CH 105	General Chemistry	..3
CH 105L	Gen. Chem. Lab.	..2
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	..5
PW 113	Hygiene	.....1
PW	Physical Education	..1

\* LY 101 Library Science may be scheduled in any quarter of the Freshman year.

#### SOPHOMORE YEAR

CH 206	Quant. Analysis	.....5
EH 141	Med. Vocabulary	.....5
PS 205	Physics-Mechanics and Heat	.....5
HY 205	Current Events	.....1
PW	Physical Education	..1

CH 207	Organic Chemistry	..5
PS 206	Physics-Elec., Sound & Light	.....5
VM 220	Human Anatomy & Physiology	.....5
HY 205	Current Events	.....1
PW	Physical Education	..1

CH 208	Organic Chemistry	..5
VM 200	General Micro- biology	.....5
VM 221	Human Anatomy & Physiology	.....5
HY 205	Current Events	.....1
PW	Physical Education	..1

#### JUNIOR YEAR

CH 418	Biochemistry	.....5
LT 301	Hematology	.....5
VM 204	Pathogenic Micro- biology	.....5
	Elective	.....3

CH 419	Biochemistry	.....5
LT 305	Serology	.....5
ZY 303	Medical Parasitology	.....5
	Elective	.....3

CH 420	Biochemistry	.....5
HY 107	Advanced History	.....5
LT 401	Adv. Hematology	.....5
	Elective	.....3

## SENIOR YEAR

## FIRST QUARTER

EH 345	Business & Professional Writing	5
LT 421	Diagnostic Apparatus	5
ZY 308	Micrology	5
LT 402	Seminar	3

## SECOND QUARTER

SP 231	Essentials of Public Speaking	5
PY 300	Public Health	5
	Group Elective	5
	Elective	3

## THIRD QUARTER

LT 405	Adv. Serology	5
LT 422	Hospital Lab. Practice	5
ZY 409	Histology	5
	Elective	3

Total—211 quarter hours

## RECOMMENDED ELECTIVES

BY 201	General Botany	5	FL 151	Elementary German	5
BY 202	General Botany	5	FL 152	Elementary German	5
EC 102	Principles of Geography	5	PG 211	General Psychology	5
EC 211	Introductory Accounting	5	ST 111	Business Typewriting	5
EC 212	Introductory Accounting	5	SY 201	Introductory Sociology	5
FL 121	Elementary French	5	SY 301	Sociology of the Family	5
FL 122	Elementary French	5	ZY 400	Genetics	5



# School of Education

TRUMAN M. PIERCE, *Dean*

**T**HE SCHOOL OF EDUCATION provides professional preparation programs for service in the fields of curriculum and teaching; administration, supervision, and guidance; and psychology. Recognizing school service as a profession with various areas of activity, the School of Education provides training in a number of specialized curricula on both the undergraduate and graduate levels. Undergraduate programs lead to the degrees of Bachelor of Science in Education and Bachelor of Science in Agricultural Education and the Bachelor of Arts degree in Psychology. Programs administered by the Graduate School lead to the degrees of Master of Education, Master of Agricultural Education, the Master of Science, Specialist in Education, and Doctor of Education.

## Programs and Degrees

### Undergraduate

**Agricultural Education.** — The Department of Agricultural Education provides a program for the preparation of teachers of vocational agriculture and industrial arts. This curriculum leads to the degree of Bachelor of Science in Agricultural Education and includes study in the liberal arts, specialization in the fields of agriculture or industrial arts, psychology, educational theory and practice, and laboratory experiences.

**Elementary Education.** — The Department of Elementary Education provides a program for the preparation of teachers for elementary schools. This curriculum leads to the degree of Bachelor of Science in Education and includes study in the liberal arts, psychology, educational theory and practice, laboratory experiences, and provision for concentration of study in one or more subject-matter fields.

**Psychology.** — The Department of Psychology has a liberal arts program which leads to the degree Bachelor of Arts. This curriculum prepares students for further study in psychology at the graduate level but serve as a liberal undergraduate education as pre-professional preparation for medicine and the ministry.

**Secondary Education.** — The Department of Secondary Education provides a program for the preparation of teachers in secondary schools. This curriculum leads to the degree Bachelor of Science in Education and includes study in the liberal arts, specialization in one or more teaching fields, psychology, educational theory and practice, and laboratory experiences. Fields of specialization include Art, Business Education, Dramatic Arts, English, Foreign Languages, Health and Physical Education, Mathematics, Mental Retardation, Music, Science, School Library Service, Social Science, Speech, Speech Correction, and Vocational Home Economics Education.

### Graduate

Graduate programs are offered through the Graduate School in administration, supervision, and guidance; agricultural education; elementary education; secondary education; and psychology. A graduate program is also available in school library service.

Fifth-year programs of study in these areas lead to the degrees Master of Science, Master of Education, and Master of Agricultural Education.

Sixth-year programs in curriculum and teaching, and in administration, supervision, and guidance lead to the degree of Specialist in Education.

A doctoral program leading to the degree of Doctor of Education is offered in the areas of curriculum and teaching; and in administration, supervision, and guidance.

Programs of study leading to the respective graduate degrees provide opportunities for advanced study in professional education, psychology, and for concentration in appropriate subject-matter fields related to the professional objectives of graduate students.

For descriptions of graduate programs and degree requirements see Graduate School Bulletin.

### Related Programs and Services

#### Teacher Certification Services

Programs in the School of Education are approved by the State Board of Education for certifying superintendents, supervisors, principals, guidance personnel, elementary and secondary teachers, and school librarians. Upon satisfactory completion of a prescribed course of study and upon recommendation of the Dean of the School of Education a professional certificate will be issued by the State Department of Education.

Students in other areas of the University may want to take courses in education and psychology for the purpose of acquiring knowledge and understanding regarding human growth and development, the history and purposes of education in America, and teaching as a profession. They are encouraged to take such courses, and are eligible to take all courses for which they satisfy prerequisites except the internship in student teaching.

Students who do not take the full program of requirements for a professional certificate may qualify for a non-professional certificate which is valid for one year only and cannot be continued or reinstated.

For detailed requirements for the Professional Certificate (Ranks B, A, or AA), Non-Professional, Emergency Professional, and Trades and Industries Certificates, consult the Alabama State Department of Education Bulletin 1953, No. 7, available in the office of the Dean of the School of Education.

#### Student Personnel Services

*Wilbur A. Tincher, Coordinator*

The Student Personnel Services Program of the School of Education is designed to assist the student in understanding the University and becoming a part of it, in identifying his strengths and limitations, in determining his professional goals, in selecting the proper curriculum in the University, and in securing employment upon graduation.

**Recruitment.** — Able young people are encouraged to consider teaching as a profession. Efforts of organizations such as the Future Teachers of America in the secondary schools and the Student National Education Association in colleges and of individuals and groups in the profession are aimed primarily at seeking out, informing, and encouraging students who show promise for the teaching profession wherever they may be found.

**Financial Aid.** — Opportunities for financial aid are available in the form of part-time employment and loans. One type of loan, the Student Loan Program financed by the National Defense Education Act of 1958, provides low-interest, long-term loan funds that are particularly attractive to School of Education students because of special provision for the prospective public school teacher. The NDEA provides that if a student goes into teaching in a public elementary or secondary school, up to 50 per cent of the principal (plus interest) of the loan may be cancelled.

Information and application for NDEA loans may be obtained from Mr. P. M. Norton, 101 Samford Hall, Auburn University. For additional information about financial aid and employment, see pages 88 and 89 of this bulletin.

**Orientation.** — The Orientation Program is designed to provide University personnel with an understanding of the student's background, individuality, and needs and to assist the student in obtaining information about the University and its programs, in learning more about himself, and in selecting professional goals that are compatible with his abilities. All freshmen participate from one to three quarters in an orientation program designed to assist them with personal and professional concerns.

**Counseling.** — Professional assistance is available to students who have problems of an academic, vocational, or personal nature. Each student in the School of Education is assigned to a faculty advisor who assumes the responsibility for assisting the student whenever possible. Other sources of assistance include personnel in the Office of the Dean, classroom teachers, personnel in the Student Guidance Center, the offices of the Dean of Women, the Dean of Student Affairs, and the Registrar, dormitory head residents and counselors, and ministers of local churches.

**Selection and Retention.** — The selection and retention program is continuous and is designed to induct and retain in teacher-education those students who show promise of success in teaching. Students are assisted through orientation, counseling, and regular courses to examine their strengths and limitations and to evaluate these in relation to the many factors which affect academic and professional success.

Students desiring to become teachers must make application for admission to the professional teacher training program. Applications and specific information about the criteria of selection are available from the Student Personnel Office, 205 Thach Hall.

**Placement and Follow-Up.** — The Teacher Placement Service provides, free of charge, assistance to prospective teachers in locating desirable positions and assistance to employers in identifying candidates. Persons interested in placement should contact the Student Personnel Office, 205 Thach Hall. Follow-up studies of successes, failures, and problems of graduates are made. Further information may be obtained from the Coordinator of Student Personnel Services, 205 Thach Hall.

## Field Services

*Robert L. Saunders, Coordinator*

Field Services constitute that phase of the work of the School of Education which is designed to make the programs and services of the School of Education available to individuals and groups off campus. Field Services enable the School of Education to combine its three major functions: instruction, research, and extension; and make them available to off-campus groups toward assisting in the continuous improvement of public education in the State and region. Several major categories of services are available. These follow with a brief statement of the purpose and nature of the services.

**Off-Campus Instruction.** — Off-campus instruction is available through the Field Laboratory Program which enables teachers in service to complete a total of 16 quarter hours of residence credit toward a graduate degree. The program utilizes the local school setting as a laboratory in which graduate study in educational foundations is provided as a framework for solving instructional problems related to those areas of study. The program may be used as a supplement to existing in-service programs or as a basis for developing such programs.

Short courses may also be offered on a non-credit basis for groups interested in specific areas of education and psychology. The courses may consist of a series of lectures or workshops and are available to groups of professional and non-professional personnel who may be interested in short courses focused on some specific aspect of their work.

**Educational Television.** — Resources and materials of the School of Education are made available to the people of the State through a series of telecasts from the Auburn Educational Television studio. Telecasts are planned and presented in cooperation with the Auburn University Educational Television Department through the facilities of the Alabama Educational Television Network. Telecasts are of two major types: (1) direct and enrichment teaching programs for elementary and secondary school students, and (2) programs designed to assist teachers in their professional career development programs.

Further information regarding Educational Television at Auburn University is contained on page 197 of this Bulletin. A schedule of courses and specific course study guides may be obtained by writing the Director, Educational Television, Auburn University.

**Lecture and Consultative Service.** — The staff of the School of Education is composed of persons who are skilled in general and specific areas of education. The Office of Field Services functions as a coordinating agency for making the services of these faculty members available for lecture and consultative services. These services may be used in connection with in-service education, school and community projects, teacher workshops and institutes, and community clubs and organizations.

**School Surveys.** — School systems desiring comprehensive school surveys or surveys in specific areas of education such as school plant utilization and construction, school finance, administrative organization, and curriculum and teaching programs, may secure services of this type from the School of Education. Surveys may be conducted as separate projects or in conjunction with the Field Laboratory Program described above.

**Research Services.** — School systems may wish to conduct research in such areas as the instructional program, administrative and supervisory patterns and organization, school and community projects, the development and evaluation of testing programs, and the use of instructional materials and facilities. The assistance of the staff of the School of Education is available for these activities, either as separate endeavors or in conjunction with the instructional and survey services described above.

**Correspondence Study.** — Correspondence study provides undergraduate instruction for persons unable to attend college on a regular basis. Courses are available in the areas of English, history, mathematics, physical education, economics, sociology, psychology, and education. Other courses may be added as the demand warrants. Correspondence courses parallel those given on the campus and have been prepared to give the student the greatest possible mastery of course content and to secure for him the instructional and evaluative services of his instructor. All the courses carry college credit. For information concerning the Correspondence Study Program at Auburn University, see page 196 of this Bulletin. For regulations governing the use of correspondence and extension work in programs of study at Auburn, see page 74.

### Learning Resources Center

The School of Education provides, through a learning resources center housed in Thach Hall, an extensive collection of materials for teaching and learning. These resources complement the materials in the Library of the University. They are varied in nature, and range from selected printed publications to graphic productions. Included in this offering are such materials of instruction as transparencies for projection, models, graphic art supplies, materials for opaque projection, record players, tape recorders, overhead projection equipment and supplies, television receiving sets, and printed references.

The Learning Resources Center is a service center which has as its primary aim the improvement of instruction through the effective use of appropriate materials. Personnel is available to assist the faculty and students in selecting and using these learning resources.

### Education Interpretation Service

*Paul Irvine, Head*  
*Carol Bacheller, Writer*  
*Joseph Quinn, Artist*

This is a special service devoted to better communication through the printed page. It aids public agencies and schools in improving their publications, publicity, and educational materials. It also provides readability analyses of textbooks, editorial services, and publication facilities.

### In-Service Agricultural Education and Supervision

*Thurston L. Faulkner, State Supervisor*  
*Homer F. Gibson, Hubert R. Culver, Ben P. Dilworth, Lewis L. Sellers, and*  
*Joseph A. White, Assistant Supervisors*  
*Howard W. Green, Subject Matter Specialist*  
*Homer N. Lewis, Livestock Specialist*  
*Byron F. Rawls, Executive Secretary FFA*

In cooperation with the State Department of Education, the School of Education maintains an in-service teacher education and supervisory division.

This service extends to 345 departments of vocational agriculture in accredited high schools of the State and to more than 25 teachers of veterans.

### Vocational Rehabilitation Service

*Frank W. Jenkins, District Supervisor*  
*J. Hoyt Roberts, District Counsellor*

The State Department of Education in cooperation with Auburn University maintains the local Rehabilitation Service which provides vocational guidance, counseling, training and placement services to citizens who are handicapped. The Rehabilitation Service also makes available to its handicapped citizens such services as: surgical and/or medical care, hospitalization, therapeutic treatment and artificial appliances when these services are essential to training and/or employment and the individual is not financially able to secure them.

### Professional Curricula

Students who intend to teach should register in the School of Education when they enroll at Auburn. However, students from other divisions of the University and from other colleges who decide to teach may transfer to the School of Education at a later time. Graduates from two-year curricula of approved colleges normally enter the junior year.

Early registration in the School of Education clarifies the student's plans and strengthens his preparation for teaching. He should plan his program in conference with his advisor by the beginning of his sophomore year.

### Curriculum For The Professional Preparation Of Elementary School Teachers (ED)

Requirements of the curriculum for the professional preparation of elementary school teachers are distributed as follows:

#### I. General Education

ED 102-3-4 Orientation .....	3	MH 181 Fundamental Mathematics .....	5
ED 200 Foundations .....	6	MU 101 Fundamentals of Music .....	3
AT 342 School Art .....	5	Physical Education .....	6
EH 101-2 English Composition .....	10	PW 110 Hygiene .....	3
EH 253-54 Literature in English .....	10	PG 213 Growth and Development of School-Age Children .....	5
Social Science (Geography, Sociology, American History, American Government, World History, State History) .....	35	PG 214 Educational Psychology .....	5
Biological and Physical Sciences .....	20	Elective in English .....	3
		SP 431 Principles of Speech Correction .....	5

#### II. Required Courses in Professional Education

ED 300 Principles and Practices in Education .....	6
ED 329 Creative and Recreational Expression .....	6
ED 370 Teaching Basic Skills .....	6
ED 371 Fundamentals of Reading .....	4
ED 421 Developing Understandings of the Natural & Social Environment .....	6
ED 490 Evaluation in Education .....	3

#### III. Student Teaching .....

10-15

#### IV. Approved Electives .....

40

NOTE: A student may emphasize a special area such as art, dramatic arts, health and physical education, industrial arts, mental retardation, music, psychology, school library science, speech correction by carefully planning 27 to 30 hours in one of these fields.



## Curriculum Outline

### Elementary Education (ED)

#### FRESHMAN YEAR

##### FIRST QUARTER

ED 102	Orientation .....	1
EH 101	English Comp. ....	5
HY 107	American History ..	5
PW 110	Hygiene .....	3
PE or PW	Physical Ed. ....	1
	*Approved Elective ..	2

##### SECOND QUARTER

ED 103	Orientation .....	1
EC 102	Prin. of Geog. ....	5
EH 102	English Comp. ....	5
	Biological Science ..	5
*PE or PW	Physical Ed. ....	1

##### THIRD QUARTER

ED 104	Orientation .....	1
	Biological Science ..	5
PG 213	Growth & Dev. of School-Age Child. ..	5
PE or PW	Physical Ed. ....	1
	*Approved Elective ..	5

#### SOPHOMORE YEAR

EH 253	Lit. in English .....	5
MH 181	Fund. Meth. I .....	5
PG 214	Educ. Psychology ..	5
PE or PW	Physical Ed. ....	1
	*Approved Elective ..	1

ED 200	Foundations .....	6
EH 254	Lit. in English .....	5
HY 207	World History .....	5
*PE or PW	Physical Ed. ....	1

HY 208	World History .....	5
MU 101	Fund. of Music I ..	3
SY 201	Intro. to Sociology ..	5
PE or PW	Physical Ed. ....	1
	*Approved Elective ..	4

#### JUNIOR YEAR

AT 342	Elem. School Art ....	5
ED 300	Prins. & Practices in Education .....	6
HY 206	American Gov't .....	5
	Approved Elective ..	2

ED 329	Creative & Rec. Expression .....	6
ED 370	Teaching Basic Skills .....	6
	Physical Science ....	5
	Approved Elective ..	1

ED 371	Fund. of Reading ..	4
	Physical Science .....	5
SP 431	Prins. of Speech Correction .....	5
	Approved Elective ..	5

#### SENIOR YEAR

ED 421	Dev. Understand. of the Natural & Social Environment ..	6
HY 481	History of Ala. ....	5
	English Elective .....	3
	Approved Elective ..	4

ED 480	Student Teaching ..	15
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ED 490	Evaluation in Education .....	3
	Approved Electives ..	16

\* NOTE: Students taking ROTC will schedule these courses within the elective hours.

Total—210 quarter hours

### Curricula for the Professional Preparation of Secondary School Teachers

The undergraduate curriculum for secondary teachers consists of the following groups of courses: I. General Education; II. Professional Education; III. Student Teaching Internship; IV. Major and Minor Requirements; and V. Electives. The minimum requirement for the bachelor's degree in Secondary Education is 215 quarter hours.

Generally speaking, general education, professional education, and the teaching internship represent constants for all students enrolled in Secondary Education. The minimum hours required for the major and minor vary with the different major-minor combinations. Elective requirements within and outside the defined scope of the different programs also vary.

The Department of Secondary Education provides a program of offerings which enables students to select a major and minor from thirteen subject-matter areas; the major and minor to be in different subject areas. Subject-matter areas included in the program are: art, business education, dramatic arts, English, health and physical education, home economics education, languages, mathematics, music, science, social science, speech, and speech therapy. In addition to the major-minor combinations listed, provisions are made for students to earn a second minor of 30 hours in psychology when the major and minor combinations are selected from English, social science, and/or science. With few exceptions, any student may concentrate his electives and earn a minimum of 20 hours in psychology.

It will be observed that recommendations have been made for major-minor combinations. These recommendations are based upon general knowledge of

teaching assignments in secondary schools and some evidence of the inter-relatedness among the respective subject-matter areas.

The Dean reserves the privilege of making acceptable substitutions in course requirements, provided such modifications do not conflict with state requirements or college regulations as to degrees in Education.

### I. General Education

	Hours		Hours
ED 102-3-4 Orientation .....	3	PG 213 Growth and Development of	
ED 200 Foundations .....	6	School Age Children .....	5
EH 101-2 English Composition .....	10	PG 214 Educational Psychology .....	5
EH 253-54 Literature in English .....	10	Social Science—History, Political	
MH 181 Fundamental Mathematics I.		Science, Sociology and Economics ..	20
or equivalent .....	5	Science—Biological and Physical ..	20
MS Military Training .....	6		
PE or PW Physical Education .....	6		

### II. Required Courses in Professional Education

	Hours		Hours
ED 300 Principles and Practices		Program in Secondary School, or	
in Education .....	6	Program in the Secondary and	
Teaching in Secondary		Elementary School	
School, or Teaching in the		(Major Field) .....	3
Secondary & Elementary School		(Minor Field) .....	3
(Major Field) .....	3	ED 490 Evaluation, Pupil Growth and	
(Minor Field) .....	3	Selected Topics .....	3

### III. Student Teaching Internship 10 or 15 Hours

This program is designed to provide the regular student with a student teaching internship of one quarter in an off-campus school situation. Fifteen quarter hours credit is granted for the satisfactory completion of the internship period. Only irregular cases will be approved for students to live on campus and participate in either the ten or fifteen hour program. The person with one or more years of teaching experience may take the summer laboratory program in student teaching for credit of ten quarter hours. Any student completing only ten hours in the student teaching internship program will be required to complete an additional five quarter hours in some other professional education course.

### IV. Major and Minor Requirements

ART		BUSINESS EDUCATION	
Minors: 30 or 35 Hours		Minors: 30 or 35 Hours	
AT 101 Freehand Drawing .....	5	ST 101 Secretarial Science I .....	5
AT 103 Creative Drawing .....	5	ST 102 Secretarial Science II .....	5
AT 141 Art Structure, or		EC 211-12 Introductory Accounting .....	10
AT 142 Elementary School Art .....	5	EC 103 Economic Geography or	
AT 223 Water Color .....	5	EC 102 Principles of Geography .....	5
AT 331 History Ptg. & Sculpture .....	5	EC 200 General Economics .....	5
AT 241 General Design .....	5		30
	30	ST 203 Sect. Science III .....	5
AT Approved Elective .....	5		35
	35		
Majors: 40 or 55 Hours		Majors: 45 or 55 Hours	
Minor Requirements .....	30	Minor Requirements .....	35
AT 325 Oil Painting .....	5	ST 302 Office Machines & Filing .....	5
AT Approved Elective .....	5	EC Approved Elective .....	5
	40		45
AT Approved Electives .....	15	ST 204 Sect. Science IV .....	5
	55	EC Approved Elective .....	5
			55

**DRAMATIC ARTS****Minors: 31 or 36 Hours**

DR 101 Dramatic Production .....	5
DR 102 Acting & Stage Techniques .....	5
DR 201 Directing .....	5
DR 202 Acting & Make-up .....	5
DR 203 Stage Mechanics .....	5
DR 313 Drama Appreciation I .....	3
DR 314 Drama Appreciation II .....	3

31

DR Approved Elective .....	5
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36

**Majors: 41 or 53 Hours**

Minor Requirements .....	31
DR 204 Dramatic Theory .....	5
DR 413 20th Century Theatre .....	5

41

**Major requirements**

(41 less DR 313-3) .....

38

DR 310 World Theatre .....	5
DR 311 World Theatre .....	5
DR 312 World Theatre .....	5

53

**ENGLISH****Minors: 30, 35, or 40 Hours**

EH 101-2 English Composition .....	10
EH 253-4 English Literature .....	10
Approved Electives from	
300-400 English Courses .....	10

30

Approved Elective .....	5
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35

Approved Elective .....	5
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40

**Majors: 50 or 55 Hours**

Minor Requirements .....	30
EH 401 Advanced English Grammar .....	5
EH 390 Advanced Composition, or	
EH 441 Intro. Study of	
English Language .....	5
EH 451 Shakespeare, or	
EH 452 Shakespeare .....	5
EH 357 Survey of American Literature, or	
EH 358 Survey of American Literature .....	5

50

Approved Electives .....	5
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55

**HEALTH AND PHYSICAL EDUCATION****(Men)****Minors: 35 Hours**

PE 201 Introduction to Physical Education ..	5
PE 202 Basketball .....	5
PE 206 Football .....	5
PE 212 Elementary Physical Education .....	5

PE 401 Organization & Administration of Physical Education .....	5
PE 404 Athletic Injuries & First Aid .....	5
VM 220 Anatomy and Physiology .....	5

35

**Majors: 55 Hours**

Minor Requirements .....	35
PE 303 Baseball .....	2
PE 304 Track & Field .....	3
PE 301 Recreation Leadership .....	5
VM 221 Anatomy and Physiology .....	5
Approved Activity Courses .....	5

55

**HEALTH AND PHYSICAL EDUCATION****(Women)****Minors: 35 Hours**

PE 201 Introduction to Physical Education ..	5
PE 212 Elementary Physical Education .....	5
PE 214 Physiology of Exercise .....	5
PW 311 Conduct of Rhythmical Activities ..	5
PW 312-13 Theory & Conduct of Sports ..	10
VM 220 Anatomy and Physiology .....	5

35

**Majors: 60 Hours**

Minor Requirements .....	35
PW 314 Theory & Conduct of Sports .....	5
PE 301 Recreation Leadership .....	5
PE 401 Organization & Administration of Physical Education .....	5
VM 221 Anatomy and Physiology .....	5
Approved Activity Courses .....	5

60

**MATHEMATICS****Minors: 30, 35, or 40 Hours**

MH 111-112 Intro. College Mathematics .....	10
MH 108 Math. of Finance	

or

MH 127 Elementary Math. Statistics .....	5
MH 251 Analytic Geom. & Calculus I .....	5
MH 252 Analytic Geom. & Calculus II .....	5
MH 351 Finite Mathematics I .....	5

30

MH 352 Finite Mathematics II .....	5
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35

MH 481 College Geometry I .....	5
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40

**Majors: 45 or 50 Hours**

Minor Requirements .....	40
MH 127 Elementary Math. Statistics, or	
Approved Elective when student	
completed MH 127 in the	
minor requirement .....	5

45

Approved Elective .....	5
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50

## MODERN LANGUAGES

## Spanish

## Minor: 30 Hours

FL 131	Elementary Spanish	5
FL 132	Elementary Spanish	5
FL 231	Intermediate Spanish	5
FL 232	Intermediate Spanish	5
FL 331	Advanced Spanish	5
FL 332	Advanced Spanish	5

30

## Major: 40 Hours

	Minor Requirements	30
FL 431	History of Spanish Lit.	5
FL 432	History of Spanish Languages	5

40

## German

## Minor: 30 Hours

FL 151	Elementary German	5
FL 152	Elementary German	5
FL 251	Intermediate German	5
FL 252	Intermediate German	5
FL 351	Advanced German	5
FL 352	Advanced German	5

30

## Major: 40 Hours

	Minor Requirements	30
FL 451	History of German Literature	5
FL 452	History of German Language	5

40

## French

## Minor: 30 Hours

FL 121	Elementary French	5
FL 122	Elementary French	5
FL 221	Intermediate French	5
FL 222	Intermediate French	5
FL 321	Advanced French	5
FL 322	Advanced French	5

30

## Major: 40 Hours

	Minor Requirements	30
FL 421	History of French Literature	5
FL 422	History of French Language	5

40

## MUSIC

## Minor: 27 Hours

MU 131-2-3	Music Theory I, II, III	9
MU 351-2	Music History I, II	6
MU 377	Arranging	3
MU 361	Conducting	3
	Applied Music (one area)	6

27

## Major: 45 Hours

	Minor Requirements	27
MU 231-2-3	Music Theory IV, V, VI	9
MU 434-5	Music Composition I, II	6
	Applied Music	3

45

## Composite

## Major-Minor: 72 Hours

Major Requirements	45
One Minor Area	27
	72

## Minor Areas:

## A. Instrumental: 27 Hours

MU 104	Piano Class	1
MU 116-7-8	Woodwind Class	3
MU 113-4-5	Brass Class	3
MU 119	Percussion Class	1
MU 409	Marching Band Techniques	5
MU 362	Conducting II	1
	Band	11
	Applied Elective	2
		27

## B. Choral: 27 Hours

MU 362	Conducting II	1
MU 453	Choral Literature	3
ED 495	Organization of Choral Music	4
	Concert Choir	11
	Piano or voice	3
	Applied Elective	5
		27

## C. Public School Music: 27 Hours

MU 362	Conducting II	1
ED 497	Organization of Elementary School Music	4
	Concert Choir or Band	11
MU 116-7	Woodwind Class	2
MU 113-4	Brass Class	2
MU 119	Percussion Class	1
	Piano or Voice	3
	Applied Elective	3
		27

## SCHOOL LIBRARY SERVICE

## Minors: 28-30 Hours

ED 472	Books and Related Materials for Children	4
ED 482	Organization & Administration of School Libraries	5
ED 484	Class. & Cataloging of School Library Materials	5
ED 486	Books & Related Materials for Young People	5
AD 485	Audio-Visual Materials	5
ED 487	Practicum in School Library Services	4-6
		28-30

## SCIENCE

## Minors: 30\*, 35, 40 or 45 Hours

Three five-hour courses selected from	
PS 205	Introductory Physics,
PS 206	Introductory Physics,
ED 473	General Science for Teachers,
CH 103 & 103L	General Chemistry &
CH 104 & 104L	General Chemistry .....15

\* Majors in Vocational Home Economics are required to take CH 103 & 103L and CH 104 & 104L for 10 hours of the requirement in physical science. They will substitute VM 210 and VM 311 for ten hours of the requirement in biological science.

**SCIENCE (Cont.)**

Three five-hour courses selected from	
ZY 101 General Zoology,	
ZY 102 General Zoology,	
BY 201 General Botany &	
BY 202 General Botany	15
	30

One course in biological or physical science selected from above listing	
	5
	35

One additional course selected from above listing to provide 20 hours in biological science and 20 hours in physical science	
	5
	40

Approved Elective	5
	45

**Majors: 50 or 55 Hours**

Minor Requirements	40
Approved Electives	10
	50

Approved Elective	5
	55

**SOCIAL SCIENCE****Minors: 30, 35, or 40 Hours**

HY 101-2 History of U.S.	10
HY 207-8 World History	10
EC 200 General Economics, or	
HY 206 American Government	5
SY 201 Introduction to Sociology,	
SY 203 Cultural Anthropology, or	
SY 301 Sociology of the Family	5
	30

EC 200 General Economics, or	
HY 206 American Government	5
	35

EC 102 Principles of Geog., or	
EC 103 Economic Geography	5
	40

**Majors: 45, 50, or 55 Hours**

Minor Requirements	40
HY 452 History of Latin America, or	
HY 451 The Far East	5
	45

Approved Electives from 300-400 Courses	
	5
	50

Approved Electives from 300-400 Courses	
	5
	55

**SPEECH AND/OR EDUCATION  
ON THE EXCEPTIONAL\*****Minor: 27 Hours**

ED 201 Education (A or B)	2
SP 229 Voice and Diction	5
SP 231 Essentials of Public Speaking	5
SP 431 Principles of Speech Correction	5
Approved electives in relation to area or areas of concentration	
	10

**A. Speech**

SP 241 Bases of Speech	5
SP 273 Group Discussion	5

**B. Mental Retardation**

PG 434 Mental Hygiene or	
ED 409 Advanced Hygiene	5
ED 476 Survey of the Exceptional Child	5

**C. Speech Correction**

Two courses selected from SP 241, SP 273, PG 434, or	
ED 409, ED 476	10
	27

**Majors: 40 or 50 Hours\*\*****A. Speech**

Minor Requirements	
	27
SP 235 Interpretative Reading	5
SP 337 Fundamentals of Radio and Television Broadcasting	5
Approved Elective	3
	40

Approved Electives	10
	50

**B. Mental Retardation**

Minor Requirements	
	27
ED 478 Nature of Mental Retardation	5
Approved Electives	8
	40
Approved Electives	10
	50

**C. Speech Correction\*\*\***

Minor Requirements	
	27
SP 301 Phonetics	5
SP 321 The Speech Mechanism	5
Approved Elective	3
	40

SP 411 Intro. to Problems in Hearing	5
SP 432 Advanced Speech Correction	5
	50

\* Includes provisions for students to develop major and/or minor areas of concentration in Speech, Speech Correction, or Mental Retardation.

\*\* Requirement of 50 hours for concentration in one area only—when program of study includes two or more areas of concentration a minimum of 40 hours must be completed in one area.

\*\*\* Additional work required: 200 clock hours in an approved Speech and Hearing Clinic.

# VOCATIONAL HOME ECONOMICS EDUCATION\*\*

## Major: 63 Hours

HE 102 Basic Foods and Nutrition .....	5
HE 202 Meal Management .....	5
HE 105 Fundamentals of Clothing .....	5
HE 205 Clothing for the Family .....	5
HE 207 (3)-407 (5) Child Development .....	8
HE 303 The House I .....	5
HE 305 Tailoring .....	3
HE 313 Home Furnishing or	
HE 333 Cleaning and Lighting Equipment .....	5

HE 323 Home Management .....	5
HE 443 Home Management Residence .....	5
HE 353 Community and Family Health .....	3
HE 372 Nutrition & Health .....	3
Approved Electives in Home Economics .....	6

63

\*\* Students must complete a minimum of three out-of-class experiences. Students qualifying to teach general home economics pursue the program outlined above except eliminate HE 443 and include student teaching.

## Major and Minor Areas of Specialization

Each student must select a major and a minor area of specialization. These areas must represent two different teaching fields in the secondary school.

The following chart contains a list of recommendations for major and minor areas of specialization. Recommendations are based on relationship of major and minor areas, previous major-minor patterns, recognized interests of students, and administrative practice in teacher assignments.

A student must elect from one of the recommended major-minor programs when one of the proposed major-minor combinations meets the needs of the student for areas of specialization. He may, however, because of special interests, aptitudes and professional planning, elect a major-minor combination other than those combinations recommended in the chart. Minimum hours required in major and minor for major-minor combinations other than those recommended are: English major 55, minor 40; science major 55 (plus 10 hours of mathematics), minor 40 (plus 10 hours of mathematics); social science major 55, minor 40. Other subject-matter major-minor combination requirements are 45 hours for the major and 35 hours for the minor (with the exception of home economics education which has a 63 hour major and no provision for the minor).

MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
A. Art or Dramatic Arts .....	(1) English .....	90
55	(2) Social Science .....	90
B. Art or Dramatic Arts .....	(1) Art .....	70
40	(2) Dramatic Arts .....	70
C. Business Education .....	(3) English .....	80
55	(4) Foreign Languages .....	70
D. Business Education .....	(5) Mental Retardation .....	67
45	(6) Music .....	67
E. English .....	(7) Social Science .....	80
55	(8) Speech .....	67
	(9) Speech Correction .....	67
	(1) English .....	90
	(2) Science (plus 10 hours mathematics when needed for prerequisites) .....	95
	(3) Social Science .....	90
	Mathematics .....	75
	Social Science .....	40
	Plus a total of 15 hours, exclusive of courses in major-minor, selected from one or more of the following areas: art, audio-visual materials, dramatic arts, foreign languages, journalism, library service, mental retardation, music, psychology, radio, reading, speech, speech correction, and television.	



MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
F. English .....50	(1) Art .....30 (2) Dramatic Arts .....30 (3) Foreign Languages .....30 (4) Mental Retardation .....27 (5) Speech .....30 (6) Speech Correction .....27 For minor selected add 10 hours, exclusive of courses in major-minor, selected from one or more of the following areas: art, audio-visual materials, dra- matic arts, journalism, mental retardation, music, psychology, reading, speech, speech correc- tion, and television.	87-90
G. English or Social Science .....55	Science (plus 10 hours mathemat- ics when needed for prerequisites) .45	110
H. Foreign Languages .....40	(1) Art .....30 (2) Business Education .....30 (3) Dramatic Arts .....30 (4) English .....40 (5) Mathematics .....35 (6) Mental Retardation .....27 (7) Music .....27 (8) Physical Education .....30 (9) Science (plus 10 hours mathemat- ics when needed for prerequisites) .40 (10) Social Science .....40 (11) Speech .....27 (12) Speech Correction .....27	70 70 70 80 75 67 67 70 90 80 67 67
I. Health and Physical Education (Men) .....55 (for Women) .....60	(1) English .....40 (2) Mathematics .....35 (3) Science (plus 10 hours mathemat- ics when needed for prerequisites) .35 (4) Social Science .....40	95 90 100 95
J. Health and Physical Education (Men) .....55 (for Women) .....60	Science (plus 10 hours mathemat- ics when needed for prerequisites) .40	105
K. Home Economics Education .....63	(1) English .....30 (2) Science (plus 10 hours mathemat- ics when needed for prerequisites) .30 (3) Social Science .....30	93 103 93
L. Mathematics .....45	(1) Business Education .....30 (2) English .....40 (3) Physical Education .....30 (4) Social Science .....40	75 85 75 85
M. Mathematics .....50	Science .....40	90
N. Music .....45	(1) English .....40 (2) Social Science .....40	85 85
O. Music (plus 27 additional hours in Instrumental, Choral, or Public School Music) .....45	(1) English .....30 (2) Social Science .....30	102 102
P. Science (plus 10 hours mathematics) .....45	(1) Business Education .....35 (2) English .....40 (3) Physical Education .....35 (4) Social Science .....40	95 100 95 100
Q. Science .....55	Mathematics .....40	95
R. (a) English, (b) Science (plus 10 hours mathematics), or (c) Social Science .....50	(1) English .....35 (2) Science (plus 10 hours mathemat- ics when needed for prerequisites) .35	95 95

MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
S. Social Science .....55	(3) Social Science .....35 For minor selected add 30 hours in psychology including 10 hours of psychology in gen- eral education.	115-125
T. Social Science .....45	English .....40 Plus a total of 15 hours, exclu- sive of courses in major-minor, selected from one or more of the following areas: are, audio- visual materials, dramatic arts, foreign languages, journalism, library service, mental retarda- tion, music, psychology, radio, reading, speech, speech correc- tion, and television.	110
U. Speech and/or Education of the Exceptional* .....40-50	(1) Art .....35 (2) Dramatic Arts .....35 (3) Foreign Languages .....30 (4) Mental Retardation .....27 (5) Music .....27 (6) Speech .....35 (7) Speech Correction .....27 For minor selected add 10 hours, exclusive of courses in major-minor, selected from one or more of the following areas: art, audio-visual materials, dra- matic arts, journalism, mental retardation, music, psychology, reading, speech, speech correc- tion, and television.	82-90
V. (a) Art, (b) Business Education, (c) Dramatic Arts, (d) Health and Physical Education, (e) Mathematics, (f) Mental Ret- ardation, (g) Music, (h) Science, (i) Speech, or (j) Speech Correction .....45 English or Social Science .....55 Foreign Languages .....40	(1) English .....45 (2) Science .....45 (3) Social Science .....45 School Library Service .....27 Plus a second minor of 30 hours selected from (a) English, (b) Science, or (c) Social Science.	85-95 85-95 85-95 97-112

\* Includes provisions for students to develop Major areas of concentration in Speech, Speech Correction, or Mental Retardation. Requirement of 50 hours for concentration in one area only —when program of study includes two or more areas of concentration a minimum of 40 hours must be completed in one area.

### Schedule and Program Building for Students Majoring and Minorng in the Respective Areas of the Department of Secondary Education

The following curriculum outline sets forth suggestions on scheduling courses for each quarter during the four years of undergraduate study for all secondary education curricula. The outline contains all required courses in general and professional education, provisions for electives, and number of hours for the respective quarters. It provides also for the student to select courses from the major and/or minor for each of the respective quarters. In selecting major or minor courses for the different quarters the student will follow his subject matter major and minor charts on major and minor requirements listed above. In general, courses listed in the major and minor requirements in the above chart should be taken in sequence.

## Curriculum in Secondary Education (ED)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
ED 102	Orientation: Personal & Prof. ....1	ED 103	Orientation: Personal & Prof. ....1	ED 104	Orientation: Personal & Prof. ....1
EH 101	English Comp. ....5	EH 102	English Comp. ....5	BY 201	General Botany,
HY 101	American History,	HY 102	American Hist., or	ZY 101	General Zoology, (or
HY 107	American Hist., or	EC 102	Prins. of Geog. ....5		approved biological
EC 102	Principles of Geog. ....5		Major or Minor ....5		science) .....5
	Major or Minor ....5	PE or PW	Physical Ed. ....1	PG 213	Growth & Dev. of
PE or PW	Physical Ed. ....1	PW 112	Hygiene (women), or		School-Age Child. ....5
PW 111	Hygiene (women), or	MS	Military Tr. (men) ..1		Major or Minor ....5
MS	Military Tr. (men) ..1			PE or PW	Physical Ed. ....1
				PW 112	Hygiene (women), or
				MS	Military Tr. (men) ..1
	18		18		18

## SOPHOMORE YEAR

PG 214	Educational Psyc. ....5	ED 200	Foundations .....6	EH 253	English Literature ....5
BY 202	General Botany,	MH 181	Fundamentals of	EC 200	Gen. Economics,
ZY 102	General Zoology, (or		Math. I .....5	HY 207	World History, or
	approved biological		Major, Minor or	SY 201	Intro. to Sociology ....5
	science .....5		approved elective ....5		Major or Minor ....5
	Major or Minor ....5	PE or PW	Physical Ed. ....1	PE or PW	Physical Ed. ....1
PE or PW	Physical Ed. ....1	MS	Military Tr. (men),	MS	Military Tr. (men),
MS	Military Tr. (men),		or Elec. (women) ....1		or Elec. (women) ....1
	or Elec. (women) ....1				
	17		18		17

## JUNIOR YEAR

ED 300	Prins. & Practices in Education .....6	EC 200	Gen. Economics,	ED	Teaching, Program
	Major-Minor (or	HY 208	World History, or		(Major-Minor) (or
	approved electives) ..6	SY 201	Intro. Sociology ....5		approved elective) ..3
EH 254	English Literature (or	ED	Teaching, Program	PS 204	Survey Course in
	approved substitute) 5		(Major-Minor) (or		Physics, (or approved
ED	Teaching, Program		approved elective) ..3		physical science) ....5
	(Major-Minor) (or		Major-Minor (or		Major-Minor (or
	approved elective) ..3		approved electives) 10		approved electives) 10
	20		18		18

## SENIOR YEAR

ED	Teaching, Program	ED	Student Teaching ..15	ED 373	Gen. Science for
	(Major-Minor) (or				Teachers (or approved
	approved elective) ..3				physical science) ....5
	Major-Minor, (or				Major-Minor (or
	approved electives) 15				approved electives) 12
				ED 490	Evaluation, Pupil
					Growth and
					Selected Topics .....3
	18		15		20

NOTE: Students taking Advanced ROTC will schedule these courses within the elective hours.

Total—215 quarter hours

## Agricultural Education (AD)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
HY 107	American History ....5	BY 201	General Botany .....5	CH 104	General Chemistry ....4
MH 107	College Algebra .....5	CH 103	General Chemistry ....4	CH 104L	Gen. Chem. Lab. ....1
ZY 101	General Zoology ....5	CH 103L	Gen. Chem. Lab. ....1	ED 104	Orientation .....1
ED 102	Orientation .....1	ED 103	Orientation .....1	EH 102	English Comp. ....5
MS	Military Training ....1	EH 101	English Comp. ....5	HF 201	Orchard Mgt. ....5
PE	Physical Education ....1	MS	Military Training ....1	MS	Military Training ....1
		PE	Physical Education ....1	PE	Physical Education ....1
	18		18		18

## SOPHOMORE YEAR

FIRST QUARTER	
AS 202	Agr. Economics .....5
HF 221	Landscape Gardening .....5
PG 213	Growth & Dev. of School-Age Child. .5
MS	Military Training .....1
PE	Physical Education .....1

17

SECOND QUARTER	
AN 204	Animal Nutrition .....5
ED 200	Foundations .....6
PS 204	Survey of Physics .....5
MS	Military Training .....1
PE	Physical Education .....1

18

THIRD QUARTER	
EC 340	Personal Finance .....3
PG 214	Educational Psych. 5
SP 231	Ess. Pub. Spkg. ....5
SY 201	Intro. Sociology .....5
MS	Military Training .....1
PE	Physical Education .....1

20

## JUNIOR YEAR

AD 405	The School Shop .....5
AN 303	Farm Machinery .....5
FY 313	Farm Forestry .....5
PH 301	General Poultry .....5

20

AD 406	Farm & Home Construction .....5
AH 303	Livestock Prod. ....5
ED 300	Prins. & Practices in Education .....6
JM 315	Agr. Journalism .....3

19

AD 446	Teach. Agriculture .....5
AD 456	Teaching Aids in Agr. Education .....4
DH 200	Funds. of Dairying 5
HF 308	Veg. Gardening .....5

19

## SENIOR YEAR

AD 466	Teaching Out-of-School Groups .....5
AS 401	Farm Management .5
AN 301	Drain. & Terracing 5
AY 307	General Soils .....5

20

AD 486	Student Teaching in Agr. Education 15
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15

AD 407	Pract. Farm Elec. .5
AY 401	Forage Crops .....5
ED 490	Evaluation, Pupil Growth & Selected Topics .....3
ZY 402	Econ. Entomology .5

18

NOTE: Students taking Advanced ROTC may delete 18 quarter hours to be selected by his advisor.

Total—220 quarter hours

## Industrial Arts Education (ED)

## FRESHMAN YEAR

FIRST QUARTER	
HY 107	American History .5
MH 107	College Algebra .....5
ZY 101	General Zoology .....5
ED 102	Orientation .....1
MS	Military Training .....1
PE	Physical Education .....1

18

SECOND QUARTER	
CH 103	General Chemistry .4
CH 103L	Gen. Chem. Lab. .1
BY 201	General Botany .....5
EH 101	English Comp. ....5
ED 103	Orientation .....1
MS	Military Training .....1
PE	Physical Education .....1

18

THIRD QUARTER	
CH 104	General Chemistry .4
CH 104L	Gen. Chem. Lab. .1
EC 102	Prins. of Geography 5
EH 102	English Comp. ....5
ED 104	Orientation .....1
MS	Military Training .....1
PE	Physical Education .....1

18

## SOPHOMORE YEAR

EC 200	Prins. of Economics 5
PG 213	Growth & Dev. of School-Age Child. .5
IL 101	Woodworking .....1
MS	Military Training .....1
PE	Physical Education .....1
	Elective .....5

18

ED 200	Foundations .....6
PS 204	Survey of Physics .....5
EG 102	Engr. Drawing .....2
EG 104	Desc. Geometry .....2
IL 104	Sheet Metal Dsgn. .1
MS	Military Training .....1
PE	Physical Education .....1

18

PG 214	Ed. Psychology .....5
SP 231	Ess. Pub. Spkg. ....5
SY 201	Intro. Sociology .....5
EG 105	Engr. Drawing .....2
IL 103	Machine Tools .....1
MS	Military Training .....1
PE	Physical Education .....1

20

## JUNIOR YEAR

AD 405	The School Shop .....5
IL 302	Mfg. Processes .....3
IL 308	Gauges & Measurements .....5
AT 216	Materials and Processes .....5

18

ED 300	Prins. & Practices in Education .....6
EH 304	Tech. Writing .....3
IM 307	Safety Engr. ....5
AD 346	Voc. & Practical Arts Education .....3
ED 414	Teaching (Major) .....3

20

IL 307	General Metals .....5
IL 402	Adv. Woodworking 5
AT 141	Art. Structure .....5
IL 102	Welding Science & Application .....1
ED	Teaching (Minor) .....3

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## SENIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AD 485	Audio-Visual Mtls. ...5	ED 425	Student Teaching in Industrial Arts .....15	AD 407	Pract. Farm Elec. ...5
	Elective (Minor Method) .....5			ED 490	Evaluation in Education .....3
ED 423	Program (Major) ....3			IL 405	Probs. of Welding ...5
ED 423	Program (Minor) ....3				Elective .....5
	Elective .....4				
<hr/> 20		<hr/> 15		<hr/> 18	

NOTE: Students taking Advanced ROTC will schedule these courses within the elective hours.

Total—220 quarter hours

## Department of Psychology (PG)

The curriculum in Psychology requires completion of 40 quarter hours of courses in psychology exclusive of PG 101, Orientation, a minor of 25 or 30 quarter hours, 75 hours of general education, 15 quarter hours of French, German, Spanish, or Russian, 10 hours of technical requirements (College Algebra and Elementary Mathematical Statistics), and ROTC, hygiene, and physical education, a total of 210 quarter hours. Not more than 55 hours in psychology is allowed. General Psychology (PG 211), Psychology of Personality (PG 325), Psychometric Methods (PG 340), Advanced Psychology (PG 410), Experimental Psychology (PG 420), and Tests and Measurements (PG 455) are required courses.

The 75 hours of general education include 10 hours of English Composition plus 10 additional hours in literature and/or composition, 20 hours of social studies including at least one course in Economic Theory and History, one course in Sociology, and one course in History, 25 hours in the biological and physical sciences including Human Physiology and physics or chemistry, and 10 hours of Philosophy from among PA 307, 320, 325, 410, 420, 430, 440.

A minor is defined as 25 hours beyond the requirements in general education and the introductory course or courses in a field, where such exist. Minors may be selected from Chemistry, Economics (including Personnel Management), Industrial Management, Mathematics, Physics, Sociology, Speech (with emphasis on speech pathology and correction), Zoology, and others as approved by the Department Chairman.

Areas of concentration require 25 or 30 hours and include Anatomy and Physiology, Biological Sciences, Child Care and Development, Fine Arts (including Art, Music, Drama), Foreign Language, Industrial Personnel, the Social Sciences, and others as approved by the Department Chairman. Lists of suggested courses to include in minors and areas of concentration are available from advisors and in the Department Office.

## Curriculum in Psychology (PG)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	EH 102	English Comp. ....5	CH or PS	Chem. or Physics Requirement .....5
PG 101	Orientation .....5	HY	Hist. Requirement ...5	MH 107	College Algebra .....5
	Sci. Requirement ...5		Sci. Requirement ...5		Social Studies Requirement .....5
*MS	Military Training ...1	*MS	Military Training ...1	*MS	Military Training ...1
PE	Physical Education ...1	PE	Physical Education ...1	PE	Physical Education ...1
<hr/> 17		<hr/> 17		<hr/> 17	

## SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH	Eng. Requirement .5	EC	Eco. Requirement .5	MH 127	Elem. Math.
PG 211	General Psychology 5	EH	Eng. Requirement .5		Statistics .5
SY	Soc. Requirement .5		Sci. Requirement .5	VM 210	Human Physiology .5
*MS	Military Training .1	*MS	Military Training .1		Minor .5
PE	Physical Education .1	PE	Physical Education .1	*MS	Military Training .1
				PE	Physical Education .1
<hr/> 17		<hr/> 17		<hr/> 17	

## JUNIOR YEAR

FL	Foreign Language .5	FL	Foreign Language .5	FL	Foreign Language .5
PA	Phil. Requirement .5	PA	Phil. Requirement .5	PG 410	Adv. Psychology .5
PG 325	Psyc. of Personality 5	PG 340	Psychometric Meth. 5		Minor .5
	**Elective .3		**Elective .3		**Elective .3
<hr/> 18		<hr/> 18		<hr/> 18	

## SENIOR YEAR

PG 420	Experimental Psyc. .5	PG	Elective .5	PG	Elective .5
PG 455	Tests and		Minor .5		Minor .5
	Measurements .5		**Minor or Electives .8		**Electives .8
	**Minor or Electives .8				
<hr/> 18		<hr/> 18		<hr/> 18	

## Total—210 quarter hours

\* Women students will substitute PW 111, 112, 113, Hygiene, in freshman year and electives in sophomore year.

\*\* Students taking Advanced ROTC will schedule these courses within the elective hours.



# Division of Engineering

**T**HE DIVISION OF ENGINEERING consists of three branches of services: The School of Engineering, the Engineering Extension Service, and the Engineering Experiment Station. The School of Engineering includes the departments of Pre-Engineering, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Graphics, Industrial Laboratories, Industrial Management, Mechanical Engineering, the School of Textile Technology, and the Auburn School of Aviation.

## School of Engineering

FRED H. PUMPHREY, *Dean*

KARL BRENKERT, JR., *Assistant Dean*

**Pre-Engineering Curriculum.** — Since the fundamentals of Engineering are common to all branches of the profession, the program of study for the Freshman year is common to all Engineering Curricula. This Freshman Program is administered as a separate curriculum in the Department of Pre-Engineering. (See page 154.)

**Admission Requirements.** — For admission to the Curriculum in Pre-Engineering graduation from an approved secondary school with a minimum of 15 units, or the equivalent as shown by examination, is required. The high school course should include 3 units of college preparatory mathematics, one unit of which must be in geometry including geometry of three dimensions. Deficiencies in college preparatory mathematics must be cleared within one year either by examination or in non-credit work offered by the University. Students may not schedule Mathematics 111 until entrance deficiencies are removed.

Effective in the Fall of 1962, Mathematics 161, Analytic Geometry and Calculus, will be scheduled in the second quarter of the freshman year. Students will no longer be allowed credit for Mathematics 111 and 112, Introductory College Mathematics, but will be expected to have adequate preparation for Mathematics 160, College Algebra and Trigonometry, which will be required in the first quarter of the Pre-Engineering Program.

Applicants are admitted to curricula of the School of Engineering by the Engineering Admissions Committee after satisfactory performance in the Pre-Engineering Curriculum outlined on page 154. Applicants for admission to Aeronautical, Civil, Electrical and Mechanical Engineering and to Engineering Physics will be approved upon completion with satisfactory grades of prescribed courses in mathematics, 15 hours; English Composition, 10 hours; chemistry, 10 hours; and engineering graphics including descriptive geometry, 6 hours; a total of 41 hours. Admission to Aeronautical Administration and Industrial Management will be approved upon satisfactory completion of 50 quarter hours and to Textile Management and Textile Science upon satisfactory completion of 45 quarter hours of the Pre-Engineering Curriculum.

**Engineering Curricula.** — Curricula offered are designed to meet the educational requirements of the engineering profession. The program in the

fundamental sciences of mathematics, chemistry, and physics is followed by a study of basic engineering sciences. Specialized or departmental courses follow in the third and fourth years. A parallel program giving a general education with emphasis on the humanistic-social studies, including history, literature, economics, philosophy and similar courses is followed during all four years and has as its objective a good general education for the engineering student. This balanced program is designed to train men who will meet the needs of modern industry.

Accredited curricula leads to the degrees of Bachelor of Aeronautical Engineering, Bachelor of Civil Engineering, Bachelor of Electrical Engineering, and Bachelor of Mechanical Engineering. The curriculum in Agricultural Engineering is offered by the School of Agriculture and the curriculum in Chemical Engineering by the School of Chemistry.

Engineering students who wish to lighten the strenuous load of a four-year curriculum, and achieve a more thorough understanding of the subject matter, may schedule 17 or 18 hours per quarter rather than the prescribed 20 hours. It is recommended that those students who are not well-grounded in English, mathematics or science plan their programs on the basis of the lighter load. This will require one or more additional quarters of residence.

**Management Curricula.**—Three management curricula leading to the degrees of Bachelor of Aeronautical Administration, Bachelor of Industrial Management, and Bachelor of Textile Management prepare young men and women for a wide range of administrative and managerial positions in industry. The program of study in the first two quarters of the freshman year in these three curricula is similar to the corresponding program of engineering curricula in order to provide a period of orientation, guidance, and selection after entering college. These students will also be registered in the Department of Pre-Engineering as Pre-Engineering-Management students. They will be enrolled in the management curricula of the School of Engineering upon successful completion of the Freshman Program.

**Science Curriculum.**—In addition to the Engineering and Management Curricula, a course in Textile Science is offered in the School of Textile Technology. The degree Bachelor of Textile Science with majors in Textile Physics and Textile Chemistry is awarded to graduates in this curriculum.

**The Engineering Physics curriculum** provides a broad background in mathematics and the physical and engineering sciences and leads to the degree Bachelor of Engineering Physics.

**Master's Degree.**—The programs of graduate studies for the master's degree are offered by the School of Engineering for the Graduate School. For requirements for the master's degree see under Graduate School.

## Engineering Extension Service

CHARLES E. GEARING, *Director*

The Engineering Extension Service was established in 1937 to extend off-campus use of the facilities of all branches and departments of the Division of Engineering in such a manner as to enable the University to render a greater

service to the citizens, the government, and the industries of the State of Alabama, (1) by promoting the program of co-operative education for business and industry, and (2) by conducting short technical courses and conferences on the campus for the personnel of industry.

### Cooperative Engineering Program

The Co-operative Engineering Program affords a student in engineering an opportunity to acquire practical industrial experience which relates to his theoretical classroom instruction. His practical experience is integrated with his school work by alternating periods in school with equivalent periods in an industrial assignment.

The purpose of the industrial experience is to broaden and give meaning to the student's school work, to give the student profound lessons in human relations, to help him clarify and reaffirm his educational objectives, and to help him financially in his educational program.

The co-op student is required to complete at least the first two quarters of his pre-engineering curriculum before beginning his first work period; he then alternates between school and industry on a quarterly basis. During his senior year he remains in continuous residence at school.

The Co-operative Program is available to students in all of the engineering curricula and several other departments. For a complete listing, see page 89.

## Auburn School of Aviation

ROBERT G. PITTS, *Director*

The Auburn School of Aviation was established in 1942 as a department of the School of Engineering to offer flight and ground school instruction in aircraft piloting for resident and extension students of the University, for the Armed Forces, and for the general public; and to serve the citizens of Alabama and the Southern Region by providing other services in the broad field of aviation. The School cooperates fully with the Federal Aviation Agency in conducting special aviation training programs. At the present time the School is conducting a flight program for the training of private pilots, commercial pilots, and flight instructors.

The University is exceptionally well equipped to conduct pilot training programs inasmuch as it owns a large, modern airport of 325 acres conveniently located within two miles of the campus. The landing field consists of two paved runways 4,000 feet long and one sod strip 5,600 feet long. Other facilities include two large hangars and a modern Administration Building.

In addition to the training of pilots, such other public service accommodations as airplane storage, servicing, maintenance, and repair are provided at the airport. In conjunction with the Aeronautical Engineering Laboratories located on the campus, the operation at the airport serves as an excellent laboratory of practical training for students enrolled in the curricula of Aeronautical Administration and Aeronautical Engineering. Because of the excellent aviation facilities, the University has been fully certified by the Federal Aviation Authority as an Approved Ground and Flight School.

The Director of the Auburn School of Aviation is an Aircraft Inspection Representative for the Federal Aviation Agency.

## Engineering Experiment Station

FRED H. PUMPHREY, *Director*

KARL BRENKERT, JR., *Assistant Director*

The Engineering Experiment Station was authorized by the Board of Trustees on February 22, 1929. It is prepared to conduct basic research projects in Aeronautical, Chemical, Civil, Electrical, and Mechanical Engineering, and Textile Technology. Emphasis is placed on those projects which offer opportunities to help foster and develop the industries of Alabama. Research projects are conducted by the established engineering departments of the college under the direction of the Engineering Experiment Station. Results are published in Engineering Experiment Station Bulletins.

Not only does the Engineering Experiment Station offer a program of research service and experimental aid, but it serves the equally important function of training students for careers in many fields of research and development. These research scientists and engineers are essential to the industrial growth of Alabama.

## Pre-Engineering

HOWARD STRONG, *Director*

The Pre-Engineering Program consists of a freshman program of studies to prepare students for admission to the School of Engineering with sophomore standing.

The freshman Pre-Engineering curriculum shown below is uniform for five Engineering curricula: namely Aeronautical, Civil, Electrical, and Mechanical Engineering, and Engineering Physics.

### Curriculum in Pre-Engineering (PN)

FRESHMAN YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
EH 101 English Comp. ....5	CH 103 General Chemistry ..4	CH 104 General Chemistry ..4
HY 107 American History ....5	CH 103L Gen. Chem. Lab. ..1	CH 104L Gen. Chem. Lab. ..1
MH 111 Intr. College Math. 5	EH 102 English Comp. ....5	EH 108 Classical Lit. ....5
EG 102 Engin. Drawing I ..2	MH 112 Intr. College Math. 5	MH 161 Analytic Geometry
IL 103 Machine Tool Lab. ..1	EG 104 Descriptive Geom. ..2	& Calculus .....5
MS Military Training ....1	IL 102 Welding Science &	EG 105 Engin. Drawing II ..2
PE Physical Education ..1	Applications .....1	HY 105 Current Events ....1
	MS Military Training ....1	MS Military Training ....1
	PE Physical Education ..1	PE Physical Education ..1

The freshman program of studies in the Aeronautical Administration curriculum is given on page 155, in the Industrial Management curriculum on page 161, in the Textile Management curriculum on page 164, in the Textile Science curriculum on page 165.

## Curricula in Engineering

**Humanistic-Social Studies.** — The various engineering curricula are arranged to allow students in those curricula the opportunity to schedule a minimum of 30 quarter credit hours of humanistic-social studies. A few courses are prescribed, but the student may choose, in addition, several humanistic-social courses of particular interest to him. The courses from which he may choose these electives are listed below.

## APPROVED ELECTIVES

<b>HISTORY AND GOVERNMENT</b>		MU 373 Appreciation of Music .....	3
HY 204 History of the Modern World .....	3	MU 374 Masterpieces of Music .....	3
HY 206 American Government .....	5	<b>ECONOMICS</b>	
HY 207 or 208 World History .....	5	EC 301 Geo-Political Basis of	
HY 314 American Colonial History .....	3	World Powers .....	3
HY 315 International Organization .....	3	EC 405 Cultural Geography of the World .....	5
HY 322 The U.S. in World Affairs .....	3	EC 407 World Resources and Their	
HY 371 History of the West .....	3	Utilization .....	5
HY 407 Political Science .....	5	<b>SOCIOLOGY</b>	
HY 460 Great Leaders of History .....	3	SY 201 Introduction to Sociology .....	5
HY 482 History of the South .....	3	SY 204 Social Behavior .....	5
HY Current Events .....	1	SY 307 The Court and Penal	
<b>LITERATURE</b>		Administration .....	3
EH 320 An Introduction to Drama .....	3	SY 311 Technology and Social Change .....	3
EH 350 Shakespeare's Greatest Plays .....	3	SY 403 Regional Sociology .....	5
EH 355 Masterpieces of World Literature .....	3	<b>PHILOSOPHY AND RELIGION</b>	
EH 365 Southern Literature .....	3	PA 301 Introduction to Philosophy .....	3
EH 381 The Literature of the Age		PA 302 Introduction to Ethics .....	3
of Reason .....	3	PA 307 Scientific Reasoning .....	5
EH 385 The Impact of Science and		PA 308 Introduction to Logic .....	3
Technology upon Modern		PA 330 Philosophy of Religion .....	5
Literature .....	3	PA 440 American Philosophy .....	5
SP 334 Great American Speeches .....	3	RE 303 Christian Ethics .....	5
<b>THE ARTS</b>		RE 305 Comparative Religion .....	3
AT 332 American Painting and Sculpture .....	3	RE 306 Studies of the Gospels .....	3
AT 431 Contemporary Art .....	3	<b>PSYCHOLOGY</b>	
AR 360 Appreciation of Architecture .....	3	PG 211 General Psychology .....	5
DR 313 Drama Appreciation I .....	3	PG 311 Behavior of Man .....	3
DR 314 Drama Appreciation II .....	3	PG 461 Industrial Psychology .....	5

## Aeronautical Administration

The curriculum in Aeronautical Administration provides training for men and women who intend to hold positions connected with concerns engaged in aircraft manufacturing and air transportation. Study in the methods, economics, and principles of business is combined with certain fundamental aeronautical courses, thus resulting in a curriculum which will qualify graduates for positions as aircraft production executives; air traffic experts; and managers of airlines, airports, aircraft agencies, and other business activities in the aviation industry. Suggested groups of major electives enable students in their senior year to specialize in business administration, industrial relations, production management, sales management, and pilot training.

## Curriculum in Aeronautical Administration (AA)

FRESHMAN YEAR			THIRD QUARTER		
FIRST QUARTER			SECOND QUARTER		
CH 103 General Chemistry ..4	CH 104 General Chemistry ..4	HY 107 American History .....	5		
CH 103L Gen. Chem. Lab. ..1	CH 104L Gen. Chem. Lab. ..1	MH 108 Math. of Finance .....	5		
EH 101 English Comp. ....5	EH 102 English Comp. ....5	PS 204 General Physics .....	5		
MH 111 Intr. College Math. 5	MH 112 Intr. College Math. 5	EG 105 Engin. Drawing II ..2			
EG 102 Engin. Drawing I ..2	EG 104 Descriptive Geom. ..2	IL 104 Sheet Metal Design			
IL 102 Weld. Sci. & App. ..1	IL 103 Machine Tool Lab. ..1	& Fabrication .....	1		
MS Military Training ....1	MS Military Training ....1	MS Military Training ....1			
PE Physical Education ....1	PE Physical Education ....1	PE Physical Education ....1			
SOPHOMORE YEAR					
EC 213 Engin. Accounting ..5	AE 201 Elem. Aeronautics ..5	AE 303 Air Navigation I .....	5		
EH 345 Bus. and Prof.	EC 200 General Economics ..5	AE 304 Meteorology .....	5		
Writing .....	EC 214 Cost Control .....	IM 306 Industrial Mgt. ....5			
HY 206 American Gov't or	EH 107 Intro. to Literature ..3	SP 305 Public Speaking ....3			
EC 103 Econ. Geography ..5	MS Military Training ....1	MS Military Training ....1			
**ST 113 Typewriting .....	PE Physical Education ....1	PE Physical Education ....1			
MS Military Training ....1					
PE Physical Education ....1					

## JUNIOR YEAR

## FIRST QUARTER

AE 307	Air Navigation II	5
EC 404	Office Mgt.	5
EC 442	Personnel Mgt.	5
	*Elective	3

## SECOND QUARTER

AE 420	Civil Air Regulat.	5
EC 341	Business Law	5
IM 302	Production Control	5
	*Elective	3

## THIRD QUARTER

AE 407	Aircraft Power-plants	5
EC 345	Statistics	5
EC 463	Corp. Finance	5
	*Elective	3

## SENIOR YEAR

AE 416	Airport Mgt.	5
AE 419	Air Traffic Control	5
	Major Elective	5
	*Elective	3

AE 418	Air Transportation	5
AE 425	Aircraft Compon'ts	5
	Major Elective	5
	*Elective	3

AE 417	Airline Operation	5
PG 461	Industrial Psychology	5
	Major Elective	5
	*Elective	3

Total—228 quarter hours

\* Courses used for General Electives must be approved by the Head of the Department.

\*\* Students who have one unit of high school typing will not be allowed credit for ST 113. An elective, approved by the Head of the Department, will be substituted.

## SUGGESTED MAJOR ELECTIVES

In addition to the subjects listed below, other subjects may be used as major electives upon approval by the Head of the Department.

## BUSINESS ADMINISTRATION

EC 323	Real Estate	5
EC 332	Credits and Collection	5
EC 342	Business Law	5
EC 434	Purchasing	5
EC 464	Investments	5

## INDUSTRIAL RELATIONS

EC 350	Labor Problems	5
EC 444	Labor Legislation	5
EC 445	Industrial Relations	5
EC 450	Job Evaluation & Incentive Systems	5
IM 307	Safety Engineering	5
IM 410	Industrial Training	5
PG 461	Industrial Psychology	5

## PILOT TRAINING

AE 306	Private Pilot Training—Flight	3
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AE 406	Commercial Pilot Training—Flight	3
AE 423	Flight Instructor Training	3
AE 424	Instrument Flying	3
AE 427	Multi-Engine Training	3

## PRODUCTION MANAGEMENT

EE 307	Illuminating Engineering	5
ES 308	Gages and Measurements	5
IM 309	Materials Handling	5
IM 310	Methods Engineering	5
IM 311	Time Study	5
IM 402	Quality Control	5
IM 412	Engineering Economy	5

## SALES MANAGEMENT

EC 331	Marketing	5
EC 333	Salesmanship	5
EC 432	Advertising	5

## Aeronautical Engineering

The work in Aeronautical Engineering is based on a solid foundation in mathematics, physics, applied mechanics, strength of materials, and engineering design and analysis. The curriculum is designed to prepare men and women for an active part in four of the major fields of aviation: (1) government employment, including the Service Flying Corps and the United States Civil Service; (2) production, including design and manufacture; (3) operation, including maintenance, service, and repair of airline and private flight equipment; and (4) research, including both private and government enterprise.

## Curriculum in Aeronautical Engineering (AE)

## FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 154)

## SOPHOMORE YEAR

## FIRST QUARTER

EC 200	General Economics	5
EG 204	Kin. of Machines	3
MH 262	Analytic Geometry & Calculus	5
PS 201	Physics-Mechanics	5
IL 104	Sheet Metal Design & Fabrication	1
MS	Military Training	1
PE	Physical Education	1

## SECOND QUARTER

HY 206	American Gov't	5
ME 202	Materials of Engin.	3
MH 263	Analytic Geometry & Calculus	5
PS 202	Physics-Heat, Sound & Light	5
MS	Military Training	1
PE	Physical Education	1

## THIRD QUARTER

ME 205	Applied Mech.-Statics	5
MH 264	Analytic Geometry & Calculus	5
PS 203	Physics-Electricity & Magnetism	5
EH 208	Literature of the Western World	3
MS	Military Training	1
PE	Physical Education	1



## JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
ME 301	Thermodynamics .....5	AE 301	Basic Aerodynamics 5	AE 308	Aircraft Structures I 5
ME 307	Applied Mech.-Dynamics .....5	AE 309	Aerodynamics Lab. I 1	AE 413	Theo. Aerodynamics 5
MH 361	Diff. Equations I .....5	ME 306	Str. of Materials I .5	EE 202	Elec. & Magnetic Circuits I .....5
†SP 305	Public Speaking .....3	MH 403	Engin. Math. II .....5	MH 404	Engin. Math. III .....5
EC 206	Socio-Econ. Found. of Contp. America .3	*Elective	.....3		

## SENIOR YEAR

AE 404	High Speed Aerodynamics .....5	AE 401	Aero. Problems I .....1	AE 403	Stability & Control 5
AE 409	Aircraft Structures II .....5	AE 411	Airplane Design .....5	AE 408	Aerodynamics Lab. II .....1
AE 412	Aircraft Struct. Lab. 2	AE 429	Aircraft Vibration & Flutter .....5	AE 402	Aero. Problems II .1
EE 305	Electronics & Mach. 5	Technical Elective .5		AE 415	Rocket & Jet Propulsion .....5
*Elective	.....3	*Elective	.....3	Technical Elective .5	
				*Elective	.....3

Total—240 quarter hours

\* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 155), subject to approval of the Department Head.

† Six hours of Advanced ROTC may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

## SUGGESTED TECHNICAL ELECTIVES

In addition to the subjects listed below, other subjects may be used as technical electives upon approval by the Head of the Department.

AE 430	Rotary Wing Aircraft .....5	ME 435	Metallurgy .....5
AE 431	Astronautics .....5	ME 421	Heat Transfer .....5
CN 440	Nuclear Engineering .....5	MH 407	Mathematics of Computers .....5

## Civil Engineering

The Civil Engineering curriculum is designed to provide a sound training in mathematics and the physical sciences, in the applied sciences and principles of civil engineering, in a limited number of technical electives, and in humanistic-social studies. The objective of the curriculum is to prepare the graduate for further training by his employer and for the eventual practice of civil engineering. Courses in mathematics and the physical sciences constitute the foundation upon which the professional training is built. The success of the professional training is dependent upon the strength of this foundation. Technical electives provide for limited specialization in some branch of civil engineering such as highway, hydraulic, sanitary, soils or structural engineering.

Training in civil engineering may lead to professional activities in analysis, design, research, construction, production or sales. Such activities may be directly or indirectly concerned with highways, railroads, dams and appurtenant structures, rivers, harbors, water supply, sewage disposal, industrial wastes, foundations, buildings, bridges, etc.

The civil engineer has held a leading role in the development of our country. As in most of the professions, great changes are taking place in methods and equipment. It is to be expected that the civil engineer will take full advantage of recent advancements in science.

## Curriculum in Civil Engineering (CE)

## FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 154)

## SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200	General Economics .5	CE 201	Surveying I .5	CE 203	Surveying II .5
EH 208	Literature of the Western World .3	MH 263	Analytic Geometry & Calculus .5	EC 206	Socio-Econ. Found. of Contp. America .3
MH 262	Analytic Geometry & Calculus .5	ME 202	Materials of Engin. 3	ME 205	Applied Mech.-Statics .5
PS 201	Physics-Mechanics .5	PS 202	Physics-Heat, Light & Sound .5	PS 203	Physics-Electricity & Magnetism .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

## JUNIOR YEAR

CE 302	Highway Engin. I .5	CE 308	Hydraulics .5	CE 304	Theory of Structures I .5
CH 342	Geology .3	CE 314	Analysis of Aerial Photographs .3	CE 305	Sanitary Engin. I .5
ME 307	Applied Mech.-Dynamics .5	ME 306	Strength of Materials I .5	CE 406	Hydraulics Lab. .1
MH 264	Analytic Geometry & Calculus .5	EE 202	Elec. & Magnetic Circuits I .5	EE 305	Electronics & Mach. 5
*Elective .3		†SP 305	Public Speaking .3	ME 309	Materials Testing Laboratory .1
				*Elective .3	

## SENIOR YEAR

CE 401	Theory of Structures II .5	CE 403	Highway Materials Lab. .2	†EC 343	The Law and Contracts .3
CE 405	Sanitary Engin. II .5	CE 404	Reinforced Concrete 5	IM 412	Engin. Economy .5
CE 418	Soil Mechanics .5	CE 414	Struc. Design I .5	ME 310	Thermodynamics .5
MH 361	Diff. Equations .5		Technical Elective .5		Technical Elective .5
			*Elective .3		

Total—240 quarter hours

\* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 155), subject to approval of the Department Head.

† Six hours of Advanced ROTC may be substituted for SP 305 (3 hrs.) and EC 343 (3 hrs.).

## SUGGESTED TECHNICAL ELECTIVES

AE 415	Rocket and Jet Propulsion .5	CN 440	Nuclear Engineering .5
AN 403	Drainage and Terrace Design .5	EC 345	Statistics .5
AR 471	Town Planning .5	EC 476	Motor Transportation .5
CE 400	Higher Surveying .5	ME 206	Properties of Materials .3
CE 402	Indeterminate Structures .5	ME 316	Strength of Materials II .5
CE 407	Municipal Engineering I .5	ME 405	Air Conditioning .5
CE 408	Engineering Foundations .5	ME 412	Internal Combustion Engines .5
CE 409	Public Health Engineering .5	ME 435	Metallurgy .5
CE 410	Highway Engineering II .5	MH 402	Engineering Mathematics I .5
CE 411	Flow in Open Channels .5	MH 414	Vector Analysis .5
CE 412	Hydrology .5	MH 461	Numerical Analysis I .5
CE 416	Prestressed Concrete Design .5	PS 401	Theoretical Physics I—Mechanics .5
CE 417	Structural Design II .5	PS 402	Theoretical Physics II—Mechanics .5
CE 419	Municipal Engineering II .5	PS 403	Nuclear Physics .5
CE 420	Sanitary Engineering Lab. .5	VM 415	General Bacteriology .5

## Electrical Engineering

The curriculum in Electrical Engineering is designed to keep abreast of the rapid development recently made in the electronic and power fields. Furthermore, students in Electrical Engineering receive comprehensive training in those basic principles which are likely to be useful in any field of engineering which they may enter.

The Electrical Engineering Curriculum recognizes that the student's major interest may lie in (1) the application of electronics in communications, telemetering, wave propagation, and other phases of electronics, or (2) the field of electric power including generation and transmission, the design and manufacture of energy conversion apparatus and industrial electronics control sys-

tems. The student in his senior year may specialize within the Electrical Engineering Curriculum by selecting a group of courses pertaining either to the Electronic Field or the Power Field as defined above. He may pursue a special interest by selecting from courses in illuminating engineering, telephone engineering, television engineering, electric power systems, advanced circuit theory, microwave engineering, transistor electronics or courses in Aeronautical, Civil, or Mechanical Engineering, and in Mathematics or Physics.

### Curriculum in Electrical Engineering (EE)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 154)

#### SOPHOMORE YEAR

##### FIRST QUARTER

EC 200	General Economics	.5
EG 204	Kin. of Machines	...3
MH 262	Analytic Geometry & Calculus	.....5
PS 201	Physics-Mechanics	.5
MS	Military Training	...1
PE	Physical Education	...1

##### SECOND QUARTER

EE 202	Electric & Magnetic Circuits I	.....5
EH 208	Literature of the Western World	...3
MH 263	Analytic Geometry & Calculus	.....5
PS 203	Physics-Electricity & Magnetism	.....5
MS	Military Training	...1
PE	Physical Education	...1

##### THIRD QUARTER

EC 206	Socio-Econ. Found. of Contp. America	...3
EE 203	Electric & Magnetic Circuits II	.....5
MH 264	Analytic Geometry & Calculus	.....5
PS 202	Physics-Heat, Light & Sound	.....5
MS	Military Training	...1
PE	Physical Education	...1

#### JUNIOR YEAR

EE 312	Alternating Current Laboratory I	.....1
EE 331	Circuit Analysis I	...5
MH 361	Diff. Equations I	...5
ME 205	Applied Mech.- Statics	.....5
†SP 305	Public Speaking	...3

EE 320	Electronics	.....5
EE 321	Electronics Lab.	...1
EE 332	Circuit Analysis II	...5
ME 307	Applied Mech.- Dynamics	.....5
MH 402	Engin. Math. I	...5

EE 309	D.C. Machinery	.....5
EE 310	D.C. Laboratory	...1
EE 333	Circuit Analysis III	...5
EE 340	Comm. Engin. I	...5
	**Elective	.....3
EE 341	Comm. Engin. Lab. I	.....1

#### SENIOR YEAR

EE 402	Alternating Current Machinery I	.....5
EE 403	Alternating Current Laboratory II	.....1
†EE 410	Power Trans- mission Lines or	
*EE 450	Applied Electro- magnetism	.....5
ME 310	Thermodynamics	...5
	**Elective	.....3

*EE 430	Radio Trans- mission Lines or	
†EE 406	Symmetrical Components	.....5
*EE 448	Comm. Engr. II or	
†EE 413	Alternating Cur. Machinery II	.....5
*EE 449	Comm. Engr. Lab. II and	
*EE 451	Comm. Engr. Lab. III or	
†EE 414	Alternating Cur. Lab. III	.....2
*EE 441	Radio Freq. Meas. or	
†EE 316	Electrical Meas.	...3
ME 306	Strength of Materials I	.....5

EE 442	Ind. Electronics & Control Ckts.	.....5
*EE 453	Comm. Engr. Lab. IV or	
†ME 309	Materials Testing Lab.	.....1
ME 434	Fluid Mechanics & Heat Transfer	.....5
	Technical Elective	...5
	**Elective	.....5

Total—240 quarter hours

\* Required courses for Electronics and Communications Field.

† Required courses for Electric Power Field.

\*\* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 155), subject to approval of the Department Head.

† Six hours of Advanced ROTC may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

#### SUGGESTED TECHNICAL ELECTIVES

In addition to the courses listed below, other courses may be used as technical electives upon approval by the Head of the Department. Students in either field of Electrical Engineering may select as a technical elective any course required of the other field. They may also select any non-required course numbered 300 or over that is offered by the Aeronautical Engineering, Civil Engineering, Mathematics, Mechanical Engineering or Physics Departments.

The following courses, not covered by the above, are also suggested as technical electives:

EE 307 Illuminating Engineering .....	5	EE 439 Electric Waves .....	5
EE 404 Telephone Engineering .....	5	EE 440 Television Engineering .....	5
EE 405 Electric Power Systems .....	5	EE 443 Transistor Electronics .....	5
EE 408 Advanced A.C. Circuits II .....	5	EE 444 Fundamentals of Digital Computers .....	5
EE 433 Frequency Modulation .....	5	EE 445 Nuclear Instrumentation .....	5
EE 438 Advanced UHF Circuits .....	5	IM 412 Engineering Economy .....	5

## Engineering Physics

The curriculum in Engineering Physics is recommended only for those students who have shown high capability in the pre-engineering program. It includes a well-rounded humanities program and a broad background in mathematics and the physical and engineering sciences. This is followed by experience in engineering design and analysis in one of the traditional fields of engineering.

This curriculum gives an especially good preparation for graduate work in engineering or physics, and it is expected that nearly all graduates of this curriculum will continue for one or more advanced degrees. Students of high capability are encouraged to accept this challenge to their abilities and to enroll in this curriculum.

It is designed to prepare students for many of the more challenging areas of engineering endeavor, such as nuclear, electronic, and space engineering and engineering teaching, which require a broad scientific background. The opportunities in these areas are exceptional but usually are open only to men of outstanding ability who have continued their training until they have obtained advanced degrees.

### Curriculum in Engineering Physics (EP)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 154)

#### SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200 General Economics .....	.5	ME 205 Mechanics-Statics .....	.5	CH 317 Physical Chemistry .....	.5
EH 208 Literature of the Western World .....	.3	ME 202 Materials of Engr. .....	.3	MH 264 Analytical Geometry & Calculus .....	.5
MH 262 Analytic Geometry & Calculus .....	.5	MH 263 Analytical Geometry & Calculus .....	.5	PS 203 Physics-Electricity & Magnetism .....	.5
PS 201 Physics-Mechanics .....	.5	PS 202 Physics-Heat Sound & Light .....	.5	EG 204 Kinematics .....	.3
MS Military Training .....	.1	MS Military Training .....	.1	MS Military Training .....	.1
PE Physical Education .....	.1	PE Physical Education .....	.1	PE Physical Education .....	.1

#### JUNIOR YEAR

CH 318 Physical Chemistry .....	.5	EE 331 Circuit Analysis I .....	.5	EC 206 Soc. Econ. Fd. ....	.3
MH 361 Diff. Equations I .....	.5	ME 302 Thermodynamics II .....	.5	EE 320 Electronics .....	.5
PS 301 Intermediate Electricity .....	.5	MH 402 Engr. Math. I .....	.5	EE 321 Electronics Lab. ....	.1
ME 306 Strength I .....	.5	PS 303 Optics or		EE 332 Circuit Analysis II ..	.5
		ME 406 Ferrous Metallurgy ..	.5	PS 305 Modern Physics .....	.5
				ME 309 Materials Testing ....	.1

#### SENIOR YEAR

ME 313 Fluid Mechanics .....	.5	ME 441 Engr. Systems I .....	.5	ME 442 Engr. Systems II .....	.5
PS 401 Theoretical Physics I .....	.5	ME 421 Heat Transfer .....	.5	Technical Elective .....	.5
Technical Elective .....	.5	ME 411 ME Laboratory III ..	.5	PS 405 Nuclear Physics .....	.5
*Elective .....	.5	PS 402 Theoretical Physics II .....	.5	ME 424 ME Laboratory IV ..	.2
		*Elective .....	.3	*Elective .....	.3

**Total—240 quarter hours**

\* Courses used for Electives must be selected from the list of Humanistic-Social Studies (p. 155), subject to approval of the Curriculum Advisor.

Six hours of Advanced ROTC may be substituted for any six hours of technical course work approved by the Department Head. Twenty-one hours will be considered normal load for Advanced ROTC students in the Junior and Senior years increasing the graduation requirement to 246 quarter hours.

## SUGGESTED TECHNICAL ELECTIVES

In addition to the subjects listed below, other subjects may be used as technical electives upon approval of the Curriculum Advisor.

EE 442 Industrial Electronics and Control Circuits	MH 437 Introduction to the Theory of Matrices
EE 444 Fundamentals of Digital Computers	ME 427 Mechanical Vibrations
EE 445 Nuclear Instrumentation	ME 432 Automatic Controls
EE 450 Applied Electromagnetism	ME 438 Ferrous Metallurgy
MH 331 Higher Algebra	PS 303 Optics
MH 404 Engineering Math. III	PS 304 Applied Spectroscopy
MH 420 Advanced Calculus	PS 404 Thermodynamics
MH 421 Advanced Calculus	PS 409 Introduction to Reactor Physics I
MH 431 Introduction to Modern Algebra	PS 410 Introduction to Reactor Physics II
	PS 421 Advanced Electronic Circuits

## Industrial Management

The curriculum in Industrial Management is offered as a program of professional education in preparation for administrative and managerial positions in manufacturing, communication, and transportation industries. Emphasis is placed upon courses dealing with the operational and production phases of these industries rather than the technical and engineering phases. However, because of the technical nature of industry, about one-fifth of the curriculum is devoted to subjects dealing with mathematics, science, and the fundamentals of engineering. An even greater amount of time is devoted to the humanistic-social studies. Such a program is frequently and quite appropriately referred to as "human engineering."

Combining basic training in both the technological and social sciences with more advanced courses in management, the curriculum provides a broad professional education for a wide field of employment opportunities. In the senior year students are given considerable freedom of choice in the selection of major electives toward preparation for different industries.

## Curriculum in Industrial Management (IM)

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 103 General Chemistry	.4	CH 104 General Chemistry	.4	EH 108 Classical Literature	.5
CH 103L Gen. Chem. Lab.	.1	CH 104L Gen. Chem. Lab.	.1	HY 107 American History	.5
EH 101 English Comp.	.5	EH 102 English Comp.	.5	MH 251 Anal. Geometry	
MH 111 Intr. College Math.	.5	MH 112 Intr. College Math.	.5	& Calculus I	.5
EG 102 Eng. Drawing I	.2	EG 104 Descriptive Geom.	.2	EG 105 Eng. Drawing II	.2
IL *** Industrial Lab.	.1	IL *** Industrial Lab.	.1	IL *** Industrial Lab.	.1
MS Military Training	.1	MS Military Training	.1	MS Military Training	.1
PE Physical Education	.1	PE Physical Education	.1	PE Physical Education	.1

\*\*\* IL 103 Machine Tool Laboratory, required for one of these laboratories. Remaining requirements may be scheduled from the following: IL 102, Welding Science and Application; IL 104 Sheet Metal Design and Fabrication; or IL 105 Foundry Technology.

## SOPHOMORE YEAR

HY 206 American Gov't	.5	EC 200 General Economics	.5	EC 214 Cost Control	.5
MH 252 Anal. Geometry		EC 213 Eng. Accounting	.5	ES 308 Gages & Meas.	.5
& Calculus II	.5	PS 206 Intro. Physics	.5	IM 306 Industrial Mgt.	.5
PS 205 Intro. Physics	.5	IL 302 Mfg. Processes	.3	IL 303 Mfg. Processes	.3
IL 301 Mfg. Processes	.3	MS Military Training	.1	MS Military Training	.1
MS Military Training	.1	PE Physical Education	.1	PE Physical Education	.1
PE Physical Education	.1				

## JUNIOR YEAR

IM 310 Methods Eng.	.5	EE 304 Electric Circuits	.5	EC 345 Statistics	.5
IM 313 Budget Control	.5	IM 307 Safety Engineering	.5	IM 302 Production Control	.5
ME 319 Elem. Heat Power	.5	IM 311 Time Study	.5	IM 309 Materials Handling	.5
EH 304 Tech. Writing	.3	SP 305 Public Speaking	.3	*Elective	.3
*Elective	.3	*Elective	.3		

## SENIOR YEAR

## FIRST QUARTER

EC 442	Personnel Mgt.	.....5
IM 402	Quality Control	.....5
IM 418	Contracts & Spec.	.....3
	Major Elective	.....5
	*Elective	.....3

## SECOND QUARTER

EC 450	Job Evaluation & Incentive Systems	.....5
IM 412	Eng. Economy	.....5
SP 316	Parliamentary Proc.	.....3
	Major Elective	.....5
	*Elective	.....3

## THIRD QUARTER

IM 405	Industrial Plants	.....5
IM 406	Problems in Industrial Mgt.	.....5
	Major Elective	.....5
	*Elective	.....3

Total—240 quarter hours

\* Courses used for general electives must be approved by the Head of the Department.

## SUGGESTED MAJOR ELECTIVES

In addition to the subjects listed below, other subjects may be used as major electives upon approval by the Head of the Department.

## ACCOUNTING

EC 311	Intermediate Accounting	.....5
EC 312	Intermediate Accounting	.....5
EC 411	Cost Accounting	.....5
EC 412	Cost Accounting	.....5

## DISTRIBUTION

EC 331	Marketing	.....5
EC 332	Credit and Collections	.....5
EC 333	Salesmanship	.....5
EC 472	Economics of Transportation	.....5
EC 473	Traffic Management	.....5
EC 476	Motor Transportation	.....5

## GENERAL

EC 402	American Industries	.....5
EC 463	Corporation Finance	.....5
EC 474	Advanced Statistics	.....5
EE 307	Illuminating Engineering	.....5

## INDUSTRIAL MANAGEMENT

EC 404	Office Management	.....5
IL 405	Problems in Weld Engin.	.....5
IL 406	Problems in Machining	.....5
IM 308	Inventory Control	.....5
IM 410	Industrial Training	.....5
IM 411	Plant Location	.....5
IM 413	Sales Engineering	.....5
IM 414	History of Management	.....5
IM 415	Plant Maintenance	.....5
IM 416	Managerial Control	.....5
IM 417	Operations Research	.....5
PG 461	Industrial Psychology	.....5

## INDUSTRIAL RELATIONS

EC 350	Labor Problems	.....5
EC 444	Labor Legislation	.....5
EC 445	Industrial Relations	.....5
PG 455	Psychological Tests & Measurem'ts	.....5
SY 408	Industrial Sociology	.....5

## Mechanical Engineering

Students who complete the curriculum in Mechanical Engineering have a broad field from which to select their life's work. Industrial positions in manufacturing, marketing, maintenance, and design are available to graduate mechanical engineers in a large variety of companies which produce mechanical, chemical, electrical, aeronautical, and petroleum products. In addition, the graduate is prepared by his college training, when supplemented by experience and practical training, to specialize in management or engineering services, such as consulting and sales. The curriculum also is suitable for students intending to enter the fields of engineering education and research. It is an excellent base for further study at the graduate level in this and allied fields.

The curriculum provides the student with a strong background in mathematics and the physical sciences. The basic engineering science fields of engineering mechanics, materials science, thermodynamics, fluid mechanics, and heat transfer are covered in depth to provide the student with understanding and the ability to solve problems in these areas. In addition, professional training is given in combustion engines, including gas turbines and rockets, power plants, air conditioning, refrigeration, automatic controls, turbomachinery and machine design. A series of courses in electrical theory and electronics is also included to equip the graduate with needed fundamental knowledge in this rapidly expanding field.

Humanistics-social subjects are required to give the student breadth and to add to his general education.



Technical electives are provided in the senior year of the curriculum to enable students to specialize to a limited extent. Students intending to undertake graduate studies may take additional mathematics in lieu of certain professional technical electives.

### Curriculum in Mechanical Engineering (ME)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 154)

#### SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200	General Economics .5	MH 263	Analytic Geometry & Calculus .5	EE 202	Electric & Magnetic Circuits I .5
MH 262	Analytic Geometry & Calculus .5	ME 205	Applied Mech.-Statics .5	MH 264	Analytic Geometry & Calculus .5
PS 201	Physics-Mechanics .5	ME 202	Materials of Engr. .3	PS 203	Physics-Electricity & Magnetism .5
EC 206	Socio-Economic Foundations of Contemporary America .3	PS 202	Physics-Heat, Light & Sound .5	ME 206	Prop. of Materials .3
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

#### JUNIOR YEAR

EE 203	Electric & Magnetic Circuits II .5	EE 331	Circuit Analysis I .5	EE 320	Electronics .5
ME 301	Thermodynamics I .5	ME 302	Thermodynamics II .5	EE 321	Electronics Lab. .1
ME 307	Applied Mech.-Dynamics .5	ME 306	Strength of Materials I .5	EH 208	Literature of the Western World .3
MH 361	Diff. Equations I .5	ME 308	ME Laboratory I .1	ME 313	Fluid Mechanics .5
		MH 402	Engineering Math. I .5	ME 309	Materials Testing Laboratory .1
				ME 316	Strength of Materials II .5

#### SENIOR YEAR

ME 439	Machine Design I .4	ME 410	Power Plants .5	ME 421	Heat Transfer .5
ME 412	I. C. Engines .5	ME 305	Public Speaking .3	ME 424	ME Laboratory IV 2
ME 427	Mech. Vibrations .5	ME 411	ME Laboratory III 2		Technical Elective .5
ME 435	Metallurgy .4		Technical Elective .5	ME 440	Machine Design II .4
ME 311	ME Laboratory II .1		**Electives .6		**Elective .3

Total—240 quarter hours

\* Six hours of advanced ROTC may be substituted for SP 305, and three additional hours approved by the Department Head.

\*\* Courses used for electives must be selected from the list of Humanistic-Social Studies, subject to approval of the Department Head.

#### SUGGESTED TECHNICAL ELECTIVES

In addition to the subjects listed below, other subjects may be used as technical electives upon approval of the Head of the Department and the Dean of Engineering.

CE 304	Theory of Structures .5	ME 429	Power Plant Design .5
CE 305	Water Supply .5	ME 430	Internal Combustion Engine Prob. .5
CE 402	Indeterminate Structures .5	ME 432	Automatic Controls .5
CE 404	Reinforced Concrete .5	ME 436	Ferrous Metallurgy .5
CN 440	Nuclear Engineering .5	ME 437	Non-Ferrous Metallurgy .5
IM 412	Engineering Economy .5	ME 441	Engineering Systems I .5
ME 405	Air-Conditioning .5	ME 442	Engineering Systems II .5
ME 414	Turbomachines .5	ME 450	Special Problems 1-5
ME 415	Refrigeration .5	MH 403	Engineering Mathematics II or
ME 425	Gas and Steam Turbines .5	MH 404	Engineering Mathematics III or
ME 426	Steam Turbines .5	MH 407	Mathematics of Computers

### Textile Technology

The School of Textile Technology, housed in the Textile Building, is equipped with full-size machinery of a complete textile mill for the manufacture of a wide variety of fabrics from the processing of the raw material to the weaving of the finished product. The facilities also include laboratories for bleaching, dyeing, finishing, and the physical and chemical testing of fibers and fabrics.

The textile industry is now the largest industry in Alabama, comprising more than 25 per cent of the total industrial working force in the State. The

greater portion of the textile industry, making yarn on the cotton system, is now located in the South and Southeast. In the Southern Region alone, there are some 1500 plants which process cotton, rayon, nylon, wool, and paper and an almost unlimited number of finished products. The industry is growing rapidly in all branches.

The size and diversity of the textile and allied industries, including manufacturers of textile machinery and equipment, chemicals and dyestuffs, research laboratories, textile supply and sales houses, afford unusual opportunities for college-trained men and women. Recent developments are opening new fields of employment in research and development and in the processing of new fibers. The need for college graduates in textile technology has never been greater than at the present time, nor is the demand likely to be met within the next several years.

The School of Textile Technology offers two curricula to prepare students for all branches of the industry. The textile courses in these curricula are combined with courses offered by other departments of the university to provide basic instruction in the fundamental sciences, engineering, and technological subjects, and the humanistic-social studies. The two curricula are:

**Textile Management.** — The curriculum in Textile Management is designed to prepare the student for production, administrative, and managerial positions in the textile and allied industries. Emphasis is placed on production and operational functions and the humanistic-social studies with the inclusion of textile technological subjects. Students are permitted in their junior and senior year to major in production, sales, or design according to their interests and professional needs.

**Textile Science.** — The curriculum in Textile Science is designed to train men and women in the basic sciences with majors in Textile Chemistry and Textile Physics. It includes basic engineering sciences, humanistic-social studies, and textile technological subjects needed for a well-rounded training in the textile industry. It prepares students for positions in textile research, graduate study, and various industries related to textile chemistry, dye stuffs, synthetic fibers and yarn production.

The Alabama textile industry cooperates with the School of Textile Technology by assisting worthy young men and women to obtain a college education through the Cooperative Engineering Program, which is described on page 153 of this catalog.

The School of Textile Technology is organized and equipped to conduct applied and fundamental research. In cooperation with the Auburn Research Foundation, the Engineering Experiment Station, and other departments of the University, the School of Textile Technology desires to serve the textile industry of the region through the full utilization of its facilities.

### Curriculum in Textile Management (TM)

#### FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	CH 103	General Chemistry ..4	CH 104	General Chemistry ..4
HY 107	American History ....5	CH 103L	Gen. Chem. Lab. ..1	CH 104L	Gen. Chem. Lab. ..1
MH 107	College Algebra ....5	EH 102	English Comp. ....5	EH 108	Classical Literature ..5
TT 101	Intro. to Textiles ...1	MH 108	Math. of Finance ....5	MH 127	Elem. Statistics ....5
MS	Military Training ....1	IL 103	Machine Tool Lab. ..1	MS	Military Training ....1
PE	Physical Education ...1	MS	Military Training ....1	PE	Physical Education ...1
		PE	Physical Education ...1		

## SOPHOMORE YEAR

## FIRST QUARTER

HY 208	American Gov't	.....5
SY 201	Intro. to Sociology	.....5
TT 210	Fiber Processing	.....5
TT 304	Textile Fibers	.....2
MS	Military Training	.....1
PE	Physical Education	.....1

## SECOND QUARTER

PG 211	General Psychology	.....5
PS 205	Introductory Physics	.....5
TT 220	Weaving & Design	.....5
EG 102	Engr. Drawing I	.....2
MS	Military Training	.....1
PE	Physical Education	.....1

## THIRD QUARTER

EC 200	General Economics	.....5
PS 206	Introductory Physics	.....5
TT 211	Yarn Mfg. I	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

## JUNIOR YEAR

IM 306	Industrial Mgt.	.....5
TT 307	Bleaching & Dyeing	.....5
	Group Elective	.....5
	Elective	.....3

SP 305	Public Speaking	.....3
TT 320	Weaving & Des. II	.....5
TT 318	Physical Testing	.....2
	Group Elective	.....5
	Elective	.....3

EH 345	Bus. & Prof. Writ.	.....5
TT 319	Chemical Testing	.....2
TT 418	Jacquard Weav. & Design	.....2
	Group Elective	.....5
	Elective	.....3

## SENIOR YEAR

EC 350	Labor Problems	.....5
TT 406	Textile Costing	.....5
	Group Elective	.....5
	Elective	.....3

EC 442	Personnel Mgt.	.....5
TT 405	Warp Preparation	.....5
	Group Elective	.....5
	Elective	.....3

TT 422	Synthetic Fibers I	.....5
TT 412	Textile Mgt.	.....3
TT 431	Fabric Analysis	.....3
	Group Elective	.....5
	Elective	.....3

## Total—216 quarter hours

All Textile Management students will take the above curriculum with one of the 30 hour group electives below in accordance with interests and professional needs. Substitutions from either list may be made with approval of the Department Head.

## GROUP ELECTIVES

## PRODUCTION

IM 302	Prod. Control	.....5
IM 310	Methods Engr.	.....5
IM 402	Quality Control	.....5
TT 317	Dyeing & Finish.	.....5
TT 321	Weav. & Des. III	.....5
TT 322	Yarn Mfg. II	.....5

## SALES

EC 213	Engr. Accounting	.....5
EC 331	Principles of Mark.	.....5
EC 333	Salesmanship	.....5
EC 341	Business Law	.....5
EC 432	Advertising	.....5
EC 433	Retail Store Mgt.	.....5

## DESIGN

AT 331	History of Paint. & Sculpture	.....5
EC 435	Market. Problems	.....5
EC 404	Office Management	.....5
HE 315	Textiles	.....5
HE 415	Hist. of Textiles	.....5
TT 321	Weav. & Des. III	.....5

## Curriculum in Textile Science (TS)

## FRESHMAN YEAR

## FIRST QUARTER

EH 101	English Comp.	.....5
HY 107	American Hist.	.....5
MH 111	Intr. College Math.	.....5
IL 103	Machine Tool Lab.	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

## SECOND QUARTER

CH 103	General Chemistry	.....4
CH 103L	Gen. Chem. Lab.	.....1
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	.....5
EG 102	Engr. Draw. I	.....2
MS	Military Training	.....1
PE	Physical Education	.....1

## THIRD QUARTER

CH 104	General Chemistry	.....4
CH 104L	Gen. Chem. Lab.	.....1
EH 107	Intro. to Lit.	.....3
MH 161	Ana. Geom. & Cal.	.....5
EG 105	Engr. Draw. II	.....2
MS	Military Training	.....1
PE	Physical Education	.....1

## SOPHOMORE YEAR

MH 262	Analytic Geometry & Calculus	.....5
PS 201	Phys.-Mechanics	.....5
TT 210	Fiber Processing	.....5
EH 208	Literature of the Western World	.....3
MS	Military Training	.....1
PE	Physical Education	.....1

MH 263	Analytic Geometry & Calculus	.....5
PS 202	Phys.-Heat, Sound, & Light	.....5
TT 220	Weav. & Des. I	.....5
EC 208	Socio-Economic Foundations	.....3
MS	Military Training	.....1
PE	Physical Education	.....1

MH 264	Analytic Geometry & Calculus	.....5
PS 203	Phys.-Elect. & Magnetism	.....5
TT 211	Yarn Mfg. I	.....5
EG 204	Kin. of Machines	.....3
MS	Military Training	.....1
PE	Physical Education	.....1

## JUNIOR YEAR

EC 200	General Economics	.....5
TT 307	Bleaching & Dye.	.....5
TT 304	Textile Fibers	.....2
	Group Elective	.....5
	Elective	.....3

SY 201	Intro. to Sociology	.....5
TT 320	Weav. & Des. II	.....5
TT 318	Physical Testing	.....2
	Group Elective	.....5
	Elective	.....3

HY 206	American Gov't	.....5
ME 205	Appl. Mech.-Stat.	.....5
TT 319	Chemical Testing	.....2
	Group Elective	.....5
	Elective	.....3

SENIOR YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
ME 307 Applied Mechanics-Dynamics .....5	EH 345 Bus. & Prof. Writ. ..5	SP 231 Public Speaking .....5
TT 406 Textile Costing .....5	TT 405 Warp Preparation ..5	TT 422 Synthetic Fiber I .....5
TT 431 Fabric Analysis .....3	Group Elective .....5	TT 412 Textile Mgt. ....3
Group Elective .....5	Elective .....3	Group Elective .....5
Elective .....3		Elective .....3

### Total—234 quarter hours

All Textile Science students will take the above curriculum with one of the 30 hour group electives below in accordance with interest and professional needs. Substitutions may be made with approval of the Department Head.

### GROUP ELECTIVES

TEXTILE PHYSICS	TEXTILE CHEMISTRY
EE 304 Elec. Circuits .....5	CH 105 General Chemistry .....3
ME 310 Thermodynamics .....5	CH 105L General Chemistry Lab. ....2
PS 302 Electronics .....5	CH 207 Organic Chemistry .....5
PS 304 Applied Spectroscopy .....5	CH 208 Organic Chemistry .....5
PS 305 Modern Physics .....5	CH 316 Physical Chemistry .....5
TT 321 Weav. & Design III .....5	TT 317 Dyeing & Finishing .....5
	TT 426 Synthetic Fibers II .....5

# School of Home Economics

MARION SPIDLE, *Dean*

**T**HE SCHOOL OF HOME ECONOMICS offers young people a balanced education. The curriculum includes liberal arts, professional, and technical courses. It offers the student preparation for her role as a homemaker, professional education in one of five major subject matter fields and technical education for highly specialized fields. Students in other schools on campus may elect a minor in any of the fields of Home Economics. All courses are open to both men and women students.

When a student enters college she is assigned an advisor from the Home Economics faculty. The advisor serves in a private and personal capacity as well as professional and usually serves until the junior year. When the student decides in which special subject matter field of Home Economics she expects to major, she is assigned an advisor in the field of her specialization. Among other things her advisor will help her decide how to wisely use her elective hours. She may use these electives to strengthen majors or minors (18 quarter hours) in any field that will develop her capacities and fit her for whatever she may choose to do. Some recommended fields for a minor are art, business administration, chemistry, economics, education, foreign languages, journalism, and sociology.

In the junior year, each student is required to make a block schedule of the last two years' work, including recommended minors. This outline must be transmitted to the dean of the school before the student registers for her junior year of work. At this time it is the student's responsibility to reserve a place in one of the Home Management Houses for the appropriate quarter.

A total of 215 credit hours is required for graduation in all majors except Nursing Science. Here the requirement is 162 hours plus residence work in an accredited school of nursing.

The School of Home Economics is divided into subject matter departments. A graduate of this school receives a Bachelor of Science Degree in Home Economics with a major in one of the following:

## **I. Clothing and Textiles**

which leads to fields of work in retailing and styling, journalism, teaching, textile testing and research. The elective hours are planned to provide further training in journalism, business administration, education, chemistry, or other subjects required in these various fields.

## **II. Foods and Nutrition**

which gives the student opportunities to prepare for service as dieticians in hospitals, colleges, public school lunchrooms, in tea rooms and cafeterias: for food production, preparation with commercial firms, and for service in the many social organizations.

## **III. Home Management and Family Economics**

prepares students for positions with Public Utilities, T.V.A., Farmers Home Administration, equipment manufacturers and distributors, and other types of adult education as well as training leaders in all socio-

economic fields covered in Agricultural Extension Service. The program is also designed for full-time homemakers.

#### IV. Family Life and Early Childhood Education

which prepares students for work in fields in which knowledge of child development and skills in guidance are essential, such as: nursery schools, kindergartens, extended school services, child welfare, parent education programs, and guidance of children in the family. A minor in Education qualifies the student for teaching Home Economics.

#### V. Nursing Science

which with three years of work on the campus and satisfactory completion of resident work at an accredited school of nursing leads to a B.S. degree and a certificate of a graduate Registered Nurse. It provides a specially valuable background of knowledge of nutrition and homemaking problems combined with nursing for a student interested in public health.

#### Graduate Work

The School of Home Economics offers work leading to the Master of Science degree and to the professional degree, Master of Home Economics. For further information consult the Home Economics course descriptions and the graduate catalog.

#### Child Development Laboratories

The School of Home Economics provides three laboratories for the study of child development and human relations, two Nursery Schools for children 3 to 4½ years of age and a Kindergarten for 5-year olds. One nursery school meets from 9:00 a.m. to 12:00 noon, the other from 9:00 a.m. to 1:00 p.m. The Kindergarten is in session from 1:00 to 4:00 p.m. Children admitted to the laboratory schools are selected from the application list according to date of application. Applications should be made by telephoning the Nursery School Office, Auburn University.

#### Basic Curriculum for All Freshmen and Sophomores in Home Economics (HE)

FRESHMAN YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
EH 101 English Comp. ....5	EH 102 English Comp. ....5	CH 103 General Chemistry .4
HE 100 Freshman Prob. ....3	HE 102 Basic Foods & Nutr. 5	CH 103L Gen. Chem. Lab. .1
HE 104 Related Art ....5	MH 107 College Algebra* ....5	EH 253 Lit. in English ....5
PW 111 Hygiene ....1	PW 112 Hygiene ....1	HE 105 Fund. of Clothing .5
LY 101 Library Science ....1	PW Physical Education .1	PW 113 Hygiene ....1
PW Physical Education .1		PW Physical Education .1
SOPHOMORE YEAR		
CH 104 General Chemistry .4	CH 203 Organic Chem.** or	HE 202 Meal Management .5
CH 104L Gen. Chem. Lab. .1	HY 208 World History ....5	HE 312 Food Science** or
EC 211 Accounting** or	PG 211 Gen. Psychology ....5	HE 233 Home Equip.*** .5
HE 205 Clothing for the	PS 207 Physics ....5	VM 210 Physiology ....5
Family ....5	SP 305 Public Speaking ....3	JM 315 Ag. Journalism ....3
SY 201 Sociology ....5	PW Physical Education .1	PW Physical Education .1
HE 207 Intro. Child Dev. ....3		
PW Physical Education .1		

\* MH 107 required of all majors—Pr. for CH 103 and 103L.

\*\* Required of Foods and Nutrition majors only.

\*\*\* HE 215 to be scheduled by Clothing majors.

Suggested minors in Speech, Journalism or combination of both. (Consult your Advisor before scheduling SP 305 or JM 315.)

Public Speaking, Radio, and Television: SP 231, 273, 331 and 337, or 231, 337, 437 and 385. News writing, Reporting, Copyreading and Editing and Feature writing: JM 221, 223, 224 and 322.

Combination minor: JM 221, SP 231, or Workshop, JM 322, SP 337 or SP 305.



## Curriculum for Majors in Clothing and Textiles

JUNIOR YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
HE 303 The House .....5	EC 200 General Economics .....5	HE 323 Home Mgt. ....5
HE 325 Fund. of Retailing .....5	HE 315 Textiles .....5	Elective .....5
VM 311 Bacteriology .....5	Social Sc. Elective or	Prof. Elective .....5
HE 372 Nutr. & Health .....3	PG 214 Ed. Psychology .....5	HE 305 Tailoring .....3
	HE 345 Handicrafts .....3	
SENIOR YEAR		
HE 407 Growth & Dev. of	HE 425 Hist. of Costume .....5	HE 313 Home Furnishing .....5
Children .....5	HE 435 Textile Testing .....5	HE 405 Creative Costume
HE 415 History of Textiles .....5	Prof. Elective .....5	Design .....5
HE 443 Home Mgt. Res. ....5	Elective .....3	Prof. Elective .....5
HE 431 Senior Seminar .....3		Elective .....3

Electives must be chosen from one field to make a strong minor; suggested minors are Art, Chemistry, Economics, Education, Journalism, or Textile Technology.

HE 335 Retail Training (8 cr.) must be scheduled by students electing to minor in Retailing.

Total—215 quarter hours

## Curriculum for Majors in Foods and Nutrition

JUNIOR YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
HE 355 Consumer Textiles .....3	EC 200 General Economics .....5	HE 302 Table Service .....3
HE 412 Large Quan. Ckry. ....5	HE 332 Nutr. & Diet. I .....5	HE 323 Home Mgt. ....5
HY 208 World History .....5	HE 352 Inst. Organization .....3	HE 342 Nutr. & Diet. II .....5
Elective .....5	VM 311 Bacteriology .....5	PG 214 Ed. Psychology or
		Elective .....5
SENIOR YEAR		
HE 402 Diet Therapy .....5	FL French or German .....5	FL French or German .....5
HE 407 Growth & Dev. of	HE 322 Food Preservation .....3	HE 431 Senior Seminar .....3
Children .....5	HE 432 Cafeteria Mgt. ....5	HE 443 Home Mgt. Res. ....5
HE 442 Catering .....3	Elective .....5	HE 462 Exp. Cookery .....5
Elective .....5		

Total—215 quarter hours

## Curriculum for Majors in Home Management and Family Economics

JUNIOR YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
EC 200 Gen. Economics* or	HE 303 The House .....5	HE 323 Home Mgt. ....5
EC 201 Princ. & Prob. of	HE 355 Consumer Textiles .....3	HE 353 Com. & Family
Economics .....5	VM 311 Bacteriology .....5	Health .....3
HE 304 Home & Fam. Life .....3	Elective .....5	PG 214 Ed. Psychology or
HE 313 Home Furnishing .....5		Soc. Sci. Elective .....5
HE 372 Nutrition & Health .....5		Elective .....5
SENIOR YEAR		
HE 322 Food Preservation .....3	HE 401 Extension Organi-	HE 343 Contemp. Materials
HE 345 Handicraft .....2	zation & Methods .....5	and Finishes .....5
HE 407 Growth & Dev. of	HE 433 Food Equipment .....5	HE 417 Guid. of Children .....5
Children .....5	HE 453 The Consumer and	HE 463 Family Economics .....5
HE 431 Senior Seminar .....3	the Market .....5	Elective .....3
HE 443 Home Mgt. Res. ....5	Elective .....3	

\* Consult your Advisor before scheduling Economics.

Minor in Economics—Students who take a minor in Economics will take the following courses:  
EC 202, EC 211-12, EC 345 (Alternative: MH 127 or BY 401), EC 451 or EC 446.

Total—215 quarter hours

## Curriculum for Majors in Family Life and Early Childhood Education

JUNIOR YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
HE 303 The House .....5	EC 200 General Economics .....5	HE 323 Home Mgt. ....5
HE 407 Growth & Dev. of	HE 417 Guid. of Children .....5	HE 372 Nutrition & Health .....3
Children .....5	HE 313 Home Furnishing .....5	PG 214 Ed. Psychology .....5
VM 311 Bacteriology .....5	HE 353 Community &	Soc. Sc. Elective .....5
Elective .....3	Family Health .....3	

## SENIOR YEAR

## FIRST QUARTER

HE 443	Home Mgt. Res.	5
HE 457	Fam. Relationships	5
PG 345	Child Psychology	5
HE 431	Senior Seminar	3

## SECOND QUARTER

HE 437	Spec. Prob. in Ch.	
	Dev. & Kinder, Ed.	5
HE 452	Food for the	
	Young Child	5
	Electives	8

## THIRD QUARTER

ED 421	Dev. Understandings	
	of the Natural &	
	Soc. Environment	5
HE 447	Nursery School &	
	Kinder. Procedures	5
HE 362	Prob. in Com-	
	munity Nutri.	3
	Elective	5

Electives must be chosen to build a strong minor in Economics, Education, Psychology, Sociology, Speech, or Journalism.

Total—215 quarter hours

## Curriculum for Majors in Nursing Science (NS)

## FRESHMAN YEAR

## FIRST QUARTER

HE 100	Freshman Problems	3
HE 102	Basic Foods & Nutr.	5
MH 107	College Algebra	5
PW 110	Hygiene	3
PW	Physical Education	1

## SECOND QUARTER

CH 103	General Chemistry	4
CH 103L	Gen. Chem. Lab.	1
EH 101	English Comp.	5
ZY 101	General Zoology	5
HY 205	Current Events	1
PW	Physical Education	1

## THIRD QUARTER

CH 104	General Chemistry	4
CH 104L	Gen. Chem. Lab.	1
EH 102	English Comp.	5
HY 107	American History	5
LY 101	Library Science	1
PW	Physical Education	1

## SOPHOMORE YEAR

CH 203	Organic Chemistry	5
EH 253	Lit. in English	5
HE 306	Personal Grooming	3
VM 220	Human Anatomy	
	& Physiology	5
PW	Physical Education	1

HE 312	Food Science	5
EH 141	Medical Vocabulary	5
SP 305	Public Speaking	3
VM 221	Human Anatomy	
	& Physiology	5
PW	Physical Education	1

EC 200	General Economics	5
PS 207	Physics	5
SY 201	Sociology	5
	Elective	3
PW	Physical Education	1

## JUNIOR YEAR

HE 332	Nutr. & Health	5
HE 452	Food for the	
	Young Child	5
VM 311	Gen. Bacteriology	5
	Elective	3

HE 342	Nutr. & Dietetics	5
HE 407	Growth & Dev.	
	of Children	5
PG 211	Gen. Psychology	5
HE 352	Inst. Organization	3

HE 402	Diet Therapy	5
HE 417	Guid. of Children	5
PY 300	Public Health or	
	Elective	5
	Elective	3

NOTE: Upon satisfactory completion of these three years at Auburn University totaling 162 quarter hours and upon the satisfactory completion of residence work at an accredited school of nursing, the student will be recommended for the B.S. degree.

# School of Military Science

COLONEL JOHN LOCKETT

*Commandant and Professor of Military Science*

**S**TUDY OF MILITARY SCIENCE at Auburn University dates back to the Civil War period. The Morrill Land Grant Act of 1862 requires that military instruction be furnished to students. Instruction in Military Science is under the supervision of an officer of the Regular Army who is detailed as Professor of Military Science. By appointment of the college authorities he is Commandant of the ROTC students. The Professor of Military Science is assisted by a staff of commissioned and non-commissioned officers of the Army. The curriculum in Military Science is divided into two courses, basic and advanced. A description of course requirements is discussed in the following paragraphs.

## Basic Course

The basic course consists of a six-quarter block of instruction normally taken during the freshman and sophomore years. During the freshman year classroom instruction is taken all in one quarter, three hours per week, accompanied by two hours of drill per week. This course is given in the Fall, Winter, and Spring Quarters, and one credit hour is allowed. In the quarters wherein classroom instruction is not received, the student attends drill two hours per week, and for each quarter successfully completed, one credit hour may be earned. In addition to the above, a student enrolled in Army ROTC must, during his freshman year, satisfactorily complete a required course or an elective, either to be approved by the PMS, within one of the following fields:

Effective Communication

General Psychology

Science Comprehension

Political Institutions and Political Development

The course selected must consist of at least thirty classroom contact hours.

In the sophomore year four hours of instruction (two classroom and two drill) are taken each week in three quarters, with one credit hour allowed per quarter.

## Advanced Course

The Advanced Course is designed to produce officers for the Army of the United States, both the Active Army and the Reserve. Admission to the Advanced Course is on a best qualified basis. Since the number of applications received usually exceeds the quota allotted to this unit, possession of minimum qualifications does not ensure selection. Successful completion of the advanced course at Auburn University qualifies the student for a commission as 2nd Lieutenant in either the Artillery, Corps of Engineers, Armor, or the Signal Corps branches, USAR. Graduates have been commissioned in other branches from time to time based on special qualifications and the needs of the Army. Students who complete the Advanced Course and are designated Distinguished

Military Graduates may apply for a commission in the Regular Army. Others may apply during or after their active duty as officers. The advanced course consists of a six-quarter course, normally taken during the junior and senior years, designed to familiarize the student with one of the branches mentioned above. Three credit hours are allowed for each quarter of the advanced course. For limitation on credit allowed toward meeting degree requirements, see engineering curricula. Students are paid at the rate of 90 cents per day, not to exceed 595 days, while enrolled in the Advanced Course.

A summer camp of six weeks duration must be attended by the student before he becomes eligible for a commission. Summer camp is normally attended during the summer between the end of the junior and the start of the senior years. While attending summer camp students are paid \$78.00 per month. Reimbursement to the students for travel expenses is made at a rate of five cents per mile to and from camp. Uniforms, quarters and rations are furnished by the government during the camp period. The qualifications for the advanced course are:

1. United States citizenship.
2. Be physically qualified in accordance with standards prescribed by the Department of the Army.
3. Not have reached 28 years of age at time of appointment in the U.S. Army Reserve.
4. Have completed appropriate basic training (2 years Basic ROTC) or have equivalent credit in lieu thereof; have at least two (2) academic years to complete prior to graduation.
5. Have minimum overall academic average of 1.0.
6. Be selected by the Professor of Military Science and the head of the institution.
7. Execute a written agreement with the Government to complete the two-year Advanced Course training and to attend one Summer Camp (six weeks duration) preferably at the end of the first year of the Advanced Course.
8. Veterans enrolled at Auburn University who have received equivalent credit for six (6) quarters of basic ROTC may apply for the Advanced Course upon completion of sophomore academic year.

### Army ROTC Aviation Program

Certain qualified MS IV cadets may apply for enrollment in the Army ROTC Flight Training Program, subject to quota limitations. This course is conducted at no expense to the student. Participation in the program will not act to cause any reduction in the prescribed MS IV course. The course is an approved CAA standardized flight instruction program consisting of 35 hours ground instruction and 36½ hours flight training. Satisfactory completion of the program of instruction will qualify the graduates for award of a CAA Private Pilot's certificate. Students must agree to an extended period of active duty of three years, or for two years subsequent to completion of the Army Aviation School, whichever period is shorter.

### Uniforms and Equipment

All students, both Basic and Advanced, are required to deposit the sum of \$30.00 with the Bursar of the University, prior to enrollment in ROTC. They are then furnished a uniform in good condition and other necessary supplies through the ROTC Supply Office. Upon completion of the ROTC

course of instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student, less \$1.50 per quarter withheld by the Bursar of the University to cover the cost of cleaning and repair of uniforms, when applicable and to support ROTC activities as follows: Scholarship and marksmanship awards; special apparel and equipment for competitive drill teams and rifle teams; approved travel for drill teams and rifle teams representing Auburn University and rifle teams representing Auburn University ROTC; uniforms for sponsors; the official Military Ball in an amount not to exceed \$.40 per cadet enrolled that quarter.

### **Distinguished Military Students**

The Professor of Military Science may designate as a Distinguished Military Student a person who:

1. Possesses outstanding qualities of leadership, high moral character, and definite aptitude for the military service.
2. Has attained an academic standing in the upper half of his class. An exception may be made only in the case of an individual student whose standing is in the upper 10 per cent of his class in military subjects, or who has shown exceptionally high motivation toward a military career.
3. Has demonstrated his leadership ability through his achievements while participating in recognized campus activities.
4. Has attained a class standing in the upper third of his ROTC class in the Advanced Course, Senior Division, ROTC.

Distinguished Military Students may make application for a commission in the Regular Army at the beginning of their 2nd year Advanced Course and if accepted they would be commissioned in the Regular Army upon graduation from college as a Distinguished Military Graduate.

### **Distinguished Military Graduates**

The Professor of Military Science may designate as a Distinguished Military Graduate a person who was designated a Distinguished Military Student and who has maintained the high academic standards between the time of such designation and date of commission and graduation.

### **Selective Service Deferments**

Students enrolled in the advanced Army ROTC program will be deferred under the provisions of the Selective Service Extension Act of 1951, as follows:

1. Students so deferred are required to sign an ROTC deferment agreement. The provisions of the agreement require the student to complete the basic course, if enrolled therein, to enroll in and complete the advanced course at the proper time, if accepted therefor; and upon completion of the course of instruction therein, to accept a commission, if tendered.
2. The Department concerned will notify the appropriate local Selective Service Board concerning students who have been selected for deferment. Deferment by the local board in such cases is mandatory. Students dropped from ROTC, not in good scholastic standing, or not considered potential advanced course students, will no longer be deferred.
3. Students who decline to fulfill the terms of their ROTC deferment agreements pertaining to undergraduate work at the institution will be permanently suspended immediately.

# School of Naval Science

COLONEL JOHN F. DUNLAP, USMC  
*Commanding Officer and Professor of Naval Science*

**T**HE NAVAL RESERVE Officers Training Corps is established under authority of Section 22 of the Act of March 4, 1925 as amended (34 U.S. Code, Sup. 821; Public Law 729, 79th Congress, as amended by Public Law 71 and 381, 80th Congress).

A Captain in the Navy or a Colonel in the Marine Corps is assigned as the Professor of Naval Science. He is assisted by commissioned officers and others detailed from the Navy and Marine Corps.

The purpose of NROTC is to provide a steady supply of well-educated junior officers for the line and staff corps of the Regular Navy and to build up a reserve of trained officers who will be ready to serve their country at a moment's notice in a national emergency. NROTC graduates are given equal rank, equal treatment, and equal opportunities with the graduates of the United States Naval Academy.

## Types of NROTC Students

Students in the NROTC are of three types:

- (a) **Regular NROTC Students** are appointed Midshipmen, USNR. Such students assume an obligation to make all required summer practice cruises and to serve, at the discretion of the Secretary of the Navy, four years on active duty after commissioning as Ensign, U.S. Navy, or Second Lieutenant, U.S. Marine Corps, unless sooner released by the Secretary of the Navy. They may remain as career officers in the regular Navy or Marine Corps.

The Regular program briefly described above is one of the most remarkable educational opportunities ever offered. Public Law 729, signed by the President on 13 August 1946, commonly known as the Holloway Plan, instituted the selection and training of officer candidates for the Navy and Marine Corps in colleges and universities throughout the country. In the annual nation-wide selection of NROTC Students who will be enrolled in college in the Fall of each year, about ten per cent of the quotas will be filled by Navy and Marine Corps enlisted personnel. All others will be chosen directly from civilians from the United States and its territories.

For the Regular student the cost of tuition, fees, and textbooks will be paid by the Government. Necessary uniforms will be provided by the Government and students will receive retainer pay for other expenses during college at the rate of \$600 per year. Normally students will attend college for four years. While in college they may take any course leading to a baccalaureate or higher degree except the following: Pre-Medicine, Medicine, Pre-Dental, Dentistry, General Agriculture, Dairy Production, Soils, Wildlife Management, Soil Conservation, Hotel Administration, Anthropology, Pre-Veterinary, Veterinary Medicine, Pre-Theological, Theology, Agronomy, Dairy Manufacturing, Horticulture, Real Estate, Religion, Landscape Architecture, Physical Education, Pharmacy, Music, Art, Law, Poultry Husbandry, Dairy Husbandry, Floriculture, Animal Science, Entomology, Dramatics, Industrial Arts, Animal Husbandry. Regular NROTC students are required to take, in addition to the requirements of their major, 33 quarter hours of Naval Science;



they must complete one year of college mathematics and one year of physics by the end of their sophomore year. Also, in order to strengthen the courses in Principles and Problems of Leadership (NS 412 and NS 413), a minimum of 3 hours in Psychology is required as a prerequisite. Toward meeting this requirement, PG 311—Behavior of Man, 3 hours, will be scheduled as an additional requirement for all NROTC students to qualify for a commission and must be completed prior to the end of their Junior year. An exception to this rule will be made in the case of NROTC students whose curriculum requires PG 211—General Psychology, and completion of this course will be considered as meeting requirements as stated above.

They will be required to make two summer cruises and take one summer period of aviation-amphibious indoctrination, lasting from six to eight weeks each, and upon graduation must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered. During the third year of active duty they will be given a chance to apply for a permanent commission in the regular Navy or Marine Corps. If they do not choose a career in the regular Navy or Marine Corps, they will be required to accept a commission in the Naval Reserve or Marine Corps Reserve, such commission not to be resigned prior to the sixth anniversary of receiving their first commission. Except at their own request reserve officers are not called to active duty except during war or national emergency.

Entrance to this Regular program described above is effected through the medium of nation-wide competitive examination given by the Naval Examining Section, Educational Testing Service, Princeton, New Jersey, during December of each year for selection of NROTC students to enter the Regular program for the following Fall. Application blanks to take the examination and information bulletins describing this program are made available each Fall at all high schools, colleges, and Offices of Naval Officer Procurement. For more complete details, contact the Professor of Naval Science of this university.

- (b) **Contract NROTC** students have the status of civilians who have entered into a mutual contract with the Navy. They are not entitled to the compensation or benefits paid Regular NROTC students except that they are entitled to a uniform issue, payment of commutation of subsistence during their final two years of NROTC training, and practice cruise compensation. Contract NROTC students, if in all respects qualified, are commissioned as Reserve officers in the United States Navy or Marine Corps upon successful completion of the course. They are required to serve on active duty for a period of two years and to retain their commission for a total period of six years, unless sooner released by the Secretary of the Navy. They may receive commissions as Regular officers in the United States Marine Corps, if accepted under current quotas, and will have the same options of service, including retention as career officers, that Regular NROTC students have.

Contract students also will normally remain in college four years. While in the university, a Contract student may take any curriculum which leads to a baccalaureate or higher degree. This does not, however, entitle the student to any delay of active duty requirements after attaining the basic requirements for a baccalaureate degree and commissioning. In addition to the requirements of their major and 33 quarter hours of Naval Science, Contract students must complete satisfactorily by the end of their second year in the program one of the following requirements: (a) Mathematics through trigonometry (in secondary school or college); or (b) One quarter of college mathematics. Contract NROTC students must also meet the same requirement of Psychology as indicated above for Regular NROTC students. Contract students are required

to make only one cruise, normally between the junior and senior years. During this training period, Contract students will be paid as prescribed for enlisted men of the first pay grade of the Navy (\$78 per month at present). During their junior and senior years in the NROTC Program, Contract students are eligible to be furnished commutation of subsistence. The amount of this subsistence is approximately \$27 per month.

- (c) **Naval Science Students:** With the approval of the academic authorities, a limited number of students who are ineligible for enrollment in the NROTC may be permitted to pursue Naval Science courses for college credit. They are not eligible to make NROTC cruises nor to be paid compensation or benefits.

### Equipment

Uniforms, Naval Science textbooks, and other equipment necessary to the Navy program will be furnished by the Government to Regular and Contract students. The uniform will be worn only when engaged in drills or other Naval activities prescribed by the Professor of Naval Science.

### General Qualifications for Enrollment

In general, each candidate for enrollment in the NROTC must meet the following requirements:

1. Be an unmarried male citizen of the United States, never have been married, and agree to remain unmarried until commissioned or disenrolled.

2. Have attained his 17th birthday on or before July first of the year of enrollment and be of such age that he will not have attained his 25th birthday before July first of the year he will be commissioned (i.e., not over 21 on July first for initial enrollment at the beginning freshman level unless contemplating a curriculum which takes five years to complete, in which case he will not have passed the 20th anniversary of his birth on July first for initial enrollment at the beginning freshman level). The Professor of Naval Science is authorized to waive the minimum age requirement for Contract Students of the freshman class in those cases where he considers the student of sufficient maturity to undertake the Naval Science courses and drills.

3. Be morally qualified and possess officer qualifications and character as evidenced by appearance, scholarship, extra-curricular activities, and record in his home community.

4. Be at least a high school graduate or person of equivalent educational level if selected competitively; or be enrolled in good standing and attending an NROTC institution if selected by the Professor of Naval Science.

5. Be physically qualified in accordance with the current manual of the Medical Department requirements for entrance into the Naval Academy.

6. Any person receiving compensation from the United States Veterans Administration for disability incurred in the naval or military service of the United States, or who has any claim pending under the Bureau on account of such disability, is not eligible for enrollment in the NROTC.

7. A citizen of the insular possessions of the United States, unless he has been legally admitted as a citizen of the United States, is not eligible for membership in NROTC.

8. A Contract student who is also a member of a Naval Reserve Unit is entitled to receive payment on account of subsistence and transportation as an NROTC student concurrently with pay provided for drills performed by a reservist while in an inactive duty status. He may not receive subsistence as a Contract student concurrently with the active or training duty pay of a reservist.

### Selective Service Deferments

1. Regular and Contract Students are draft deferred under the Selective Service Extension Act of 1951 from the time of executing their oath of office or contract.

2. NROTC Students dropped from the program become eligible for draft immediately upon separation from the NROTC. In addition, Regular Students are transferred in an enlisted status to the Ready Reserves of the U.S. Naval Reserve to fulfill the remaining period of their six-year military obligation incurred at the time of appointment as Midshipman, USNR.

3. The Department of Naval Science will keep the appropriate local draft board informed as to the status of each student under paragraphs 1 and 2 above.

4. Students who decline to fulfill the terms of their NROTC deferment agreement pertaining to undergraduate work at the institution will be permanently suspended immediately.

### Curriculum

The Naval Science Curriculum consists of five hours per week for all courses with exception of the sophomore courses which consist of four hours per week. Two hours each week are spent on practical work or drill. The remaining hours per week are spent in classroom work. The Naval Science subjects carried during the four-year curriculum are listed below.

#### FIRST YEAR

1st Qtr. Naval Orientation (NS 111)  
2nd Qtr. Sea Power (NS 112)  
3rd Qtr. Sea Power (NS 113)

#### SECOND YEAR

1st Qtr. Naval Weapons (NS 211)  
2nd Qtr. Naval Weapons (NS 212)  
3rd Qtr. Naval Weapons (NS 213)

### (U. S. N. Candidates)

#### THIRD YEAR

1st Qtr. Naval Engineering (NS 311)  
2nd Qtr. Naval Engineering and Introduction to Navigation (NS 312)  
3rd Qtr. Navigation (NS 313)

#### FOURTH YEAR

1st Qtr. Naval Operations (NS 411)  
2nd Qtr. Naval Operations and Introduction to Principles and Problems of Leadership (NS 412)  
3rd Qtr. Principles and Problems of Leadership (NS 413)

### (U. S. M. C. Candidates)

#### THIRD YEAR

1st Qtr. Evolution of the Art of War (NS 321)  
2nd Qtr. Evolution of the Art of War (NS 322)  
3rd Qtr. Modern Basic Strategy and Tactics (NS 323)

#### FOURTH YEAR

1st Qtr. Amphibious Warfare Part I (NS 421)  
2nd Qtr. Amphibious Warfare Part II (NS 422)  
3rd Qtr. Leadership, The Uniform Code of Military Justice (NS 423)

Each of the above subjects carries 3 quarter hours of credit, with the exception of the sophomore courses which carry 2 quarter hours of credit. These hours of credit will be cleared as a part of the prescribed quarterly load in which they are taken, with graduation requirements for NROTC students being increased accordingly.

### Distinguished NROTC Graduates

The Professor of Naval Science may designate as a Distinguished NROTC Graduate any candidate who possesses outstanding qualities of leadership, high moral character, a definite aptitude for the naval service, and who has distinguished himself in his chosen academic major.

In order to qualify for this designation, a candidate must achieve an academic standing in his major field equivalent to "graduation with honor" and must also achieve an equivalent standing in aptitude and Naval Science subjects.

# School of Pharmacy

SAMUEL TERRY COKER, *Dean*

**THE SCHOOL OF PHARMACY** is a member in good standing of the American Association of Colleges of Pharmacy, the object of which is to promote pharmaceutical education. It is also fully accredited by the American Council on Pharmaceutical Education, the object of which is to formulate the educational, scientific and professional principles and standards which approved Schools of Pharmacy are expected to meet and maintain.

**Opportunities In Pharmacy.** — The thorough academic and scientific background provided by the five-year curriculum enables students to pursue a variety of courses. Those interested in business will find retail or wholesale pharmacy suited to their needs, while those with administrative ability are able to go into hospital pharmacy or public health work. If a career in scientific research is desired, the scientific option may be elected by those qualified. Those interested in sales or sales research will find pharmacy an adequate background in qualifying as a sales representative for pharmaceutical manufacturers. Many graduates are in government service as narcotics inspectors, food and drug chemists, and toxicologists. Pharmacy, especially hospital pharmacy, offers a wonderful opportunity for women. These are but a few of the many opportunities that await registered pharmacists of the future.

**The Pharmacy Curriculum.** — The five-year curriculum leading to the degree of Bachelor of Science in Pharmacy is designed to prepare students for the many and varied opportunities available to registered pharmacists. The curriculum also offers opportunity for students to include cultural subjects helpful in preparing for their role in the social, cultural and political life of the community.

Students are admitted to the curriculum in pharmacy by an Admissions Committee after successfully completing with acceptable grades one of the following prescribed pre-pharmacy programs.

**1. The 1-4 Plan** — includes one year of pre-pharmacy, which may be taken in the first year of the School of Pharmacy at Auburn or any accredited institution offering the prescribed courses. Students taking pre-pharmacy at Auburn will be on the 1-4 plan.

**2. The 2-3 Plan** — includes two years of prescribed pre-pharmacy courses at an accredited institution prior to transferring to Auburn. A minimum of nine quarters is then required in the School of Pharmacy.

After completing the third year, students choose either a professional option in preparation for general practice, including hospital pharmacy, or a scientific option in preparation for industry, medical school, research or teaching. The program of each student under either option must be approved by the advisor and those choosing the scientific option must have the approval of the Dean. Both options will adequately prepare students for State Board examinations. It is hoped that these options will motivate the superior student to achieve an educational level consistent with his ability and interests.

Approved electives should be chosen equally between professional or scientific and the liberal arts subjects.

Students who are qualified and have the prerequisites may take up to ten hours of graduate courses in their fifth year. Registration in graduate courses must be approved by the Dean of the Graduate School, but such work cannot be applied toward both the undergraduate and graduate degrees.

Attention is called to the following regulation of the American Council on Pharmaceutical Education: "No student may graduate from a recognized college or school of pharmacy who has spent less than three scholastic years of nine quarters or six semesters in residence at said college or school." Transfer students will receive no more than 103 quarter hours credit for work completed at this or other institutions in a non-pharmacy curriculum.

Students who transfer from Colleges of Pharmacy approved by the American Council on Pharmaceutical Education will be granted full credit for all work passed with acceptable grades at such institutions.

**Scholarships and Loans.**—Information concerning available scholarships and loans may be obtained by writing to the Chairman, Scholarship Committee, or the Dean, Auburn University, Auburn, Alabama.

### Curriculum in Pre-Pharmacy (P-PY)

#### FIRST YEAR

##### FIRST QUARTER

CH 103	General Chemistry	..4
CH 103L	Gen. Chem. Lab.	..1
EH 101	English Comp.	.....5
MH 111	Intr. College Math.	5
MS	Military Training	.....1
PE	Physical Education	..1

##### SECOND QUARTER

CH 104	General Chemistry	..4
CH 104L	Gen. Chem. Lab.	..1
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	5
MS	Military Training	.....1
PE	Physical Education	..1

##### THIRD QUARTER

BY 205	Pharmaceutical Botany	.....5
CH 105	General Chemistry	..3
CH 105L	Gen. Chem. Lab.	..3
HY 107	American History	..5
MS	Military Training	.....1
PE	Physical Education	..1

### Curriculum in Pharmacy (PY)

#### SECOND YEAR

CH 206	Quant. Analysis	.....5
PY 101	Intro. to Pharmacy	3
SY 201	Introduction to Sociology, or	
PG 211	Gen. Psychology	.....5
	General Elective	.....3
MS	Military Training	.....1
PE	Physical Education	..1

EC 200	Gen. Economics	.....5
PS 205	General Physics	.....5
ZY 101	General Zoology	.....5
MS	Military Training	.....1
PE	Physical Education	..1

PS 206	General Physics	.....5
PY 102	Pharmaceutical Arithmetic	.....5
ZY 102	General Zoology	.....5
MS	Military Training	.....1
PE	Physical Education	..1

#### THIRD YEAR

CH 207	Organic Chemistry	..5
PY 201	Inorganic Pharmaceutical Chemistry	..5
VM 200	Gen. Microbiology	..5
	Approved Elective	..3

CH 208	Organic Chemistry	..5
EH 345	Business & Prof. Writing, or	
EH 390	Advanced Comp.	.....5
PY 202	Pharmaceutical Terminology	.....2
VM 204	Pathogenic Microbiology	.....5

EC 211	Intro. Accounting	..5
PY 203	Pharmaceutical Technology	.....5
PY 204	Drug Marketing	.....3
PY 300	Public Health	.....5

#### FOURTH YEAR

ICH 301	Biochemistry	.....5
PY 301	Organic Pharmaceutical Chemistry	..5
PY 303	Pharmaceutical Technology	.....5
	Approved Elective	..3

PY 302	Organic Pharmaceutical Chemistry	..5
IPY 306	Elementary Pharmacognosy	.....5
PY 309	Pharmacology I	.....5
	Approved Elective	..3

CH 316	Physical Chemistry	..5
	or	
PY 304	Physical Pharmacy	..4
PY 305	Pharmaceutical Assay	.....5
IPY 307	Pharmacognosy	.....5
	Approved Elective	3-4

## FIFTH YEAR

## FIRST QUARTER

PY 400 Disp. Pharmacy I	.5
PY 405 Pharmacology II	.5
†PY 408 Pharmaceutical Economics	.5

## SECOND QUARTER

PY 401 Disp. Pharmacy II	.5
†PY 404 Chemistry of Nat. Products, or	
†PY 403 Toxicology	.5
PY 406 Pharmacology III	.5

## THIRD QUARTER

†PY 402 Disp. Pharmacy III	.5
†PY 407 Chemotherapeutic Drugs	.3
PY 414 Pharmaceutical Specialties	.3
PY 415 Pharmaceutical Jurisprudence	.2
Approved Elective	.5

## Total—258 quarter hours

\* Options must be chosen at the beginning of the fourth year. Advanced ROTC may be used as approved electives in the fourth and fifth years.

† With consent of the advisor and approval of the Dean, those electing the scientific option may substitute courses of equal credit for these subjects.

## APPROVED ELECTIVES: PROFESSIONAL OR SCIENTIFIC

PY 205 History of Pharmacy	.3	PY 430 Pharmacological Techniques	.5
PY 304 Physical Pharmacy	.4	PY 431 Pharmacology VI	.5
PY 308 Hospital Pharmacy Administration	.3	PY 432 Funds. of Bionucleonics	.3
PY 403 Toxicology, or		PY 440 Histology of Natural Products	.3
PY 404 Chemistry of Natural Products	.5	PY 441 Commercial Pharmacognosy	.3
PY 409 Applied Hospital Pharmacy	.3	CH 316 Physical Chemistry	.5
PY 410 Advanced Dispensing Pharmacy	.5	CH 418-19-20 Biochemistry	5-5-5
PY 411 Survey of Mfg. Pharmacy	.3	HE 372 Nutrition & Health	.3
PY 412 Public & Prof. Relations	.3	ZY 301 Comparative Anatomy	.5
PY 413 Special Problems	1-3	ZY 302 Vertebrate Embryology	.5
PY 421 Advanced Inorganic Pharmaceutical Chemistry	.5		

## GENERAL ELECTIVES\*

BY 201-02 General Botany	5-5	HY 206 American Government	.5
CH 341 Geology	.5	HY 207-8 World History	5-5
EC 102 Prins. of Geography	.5	MH 127 Elementary Mathematical Statistics	.5
EC 212 Introductory Accounting	.5	MH 251-52 Analytical Geometry & Calculus I, II	5-5
EC 331 Principles of Marketing	.5	MU 373 Appreciation of Music	.3
EC 341 Business Law	.5	MU 374 Masterpieces of Music	.3
EC 432 Advertising	.5	PA 301 Introduction to Philosophy	.3
EH 108 Classical Literature	.5	PA 302 Introduction to Ethics	.3
EH 141 Medical Vocabulary	.5	PA 303 Democracy & World Order	.3
EH 231 Public Speaking	.5	PA 308 Introduction to Logic	.3
EH 304 Technical Writing	.5	PG 211 General Psychology	.5
EH 345 Business & Professional Writing	.5	PG 311 The Behavior of Man	.3
EH 390 Advanced Composition	.5	ST 111 Business Typewriting	.5
FL 121-122 Introductory French	5-5	SY 201 Introduction to Sociology	.5
FL 151-152 Introductory German	5-5		

\* Additional electives may be taken only with approval of advisor.



# School of Science and Literature

ROGER W. ALLEN, *Dean*

THE SCHOOL OF SCIENCE AND LITERATURE is the oldest school of Auburn University and offers work in various lines leading to the Bachelor of Science and Bachelor of Arts degrees. It is the only school on the campus which had its origin when Auburn was a denominational institution. For many years it was known as the Academic Faculty and the work offered was referred to as the General Course. The State of Alabama assumed charge of Auburn in 1872 and the work then offered which is now retained is administered by the School of Science and Literature. Throughout the history of the institution this school has played an important part. It is composed of nine departments in which instruction is offered by more than 175 faculty members.

The School of Science and Literature has a two-fold purpose. As a distinct school coordinate with other schools of the university it offers work designed to equip the student with a broad and liberal education and thereby enable him to care for himself better and to discharge more effectively the duties of a citizen. A second purpose is to function as the service division of the university.

## Degree Courses

The Departments of Economics and Sociology, English, Foreign Languages, History, Mathematics, Philosophy, Physics, Secretarial Training, and Speech are in the School of Science and Literature. In general, the curricula offered in this school are based on various combinations of courses presented by these departments, but in some of the curricula certain courses are required which are offered by other schools of the university.

Outlines of all work required in the curricula in Business Administration, Mathematics, Physics, Pre-Dentistry, Pre-Law, Pre-Medicine, Pre-Veterinary Medicine, Secretarial Training, and Science and Literature are recorded in detail on pages 183-188 inclusive.

In the other curricula offered in this school the work required in the freshman and sophomore years is recorded on pages 182-183. During the junior and senior years the student must complete a major of seven five-hour courses and two minors of three five-hour courses each or a double minor of six five-hour courses. Any course to be counted in the major and minors must be numbered 200 or above. Required sophomore courses are not counted on the majors and minors. The work constituting the major must be elected from courses offered by one department or by two closely related departments upon the advice of the dean and the heads of the departments concerned. The work composing each minor must be selected from a single department. The major and minors will normally be selected from different departments, but the double minor will be in one department. Other work will be elected upon advice of the dean to meet the total requirement of 108 quarter hours during the junior and senior years.

The head of the department in which the student majors — or someone designated by him — automatically becomes the student's advisor and is charged with the responsibility of outlining the student's major work. The minors are to be selected in consultation with the head of the department in which the student majors, but the heads of the departments in which the student minors will prescribe the work to be completed in those fields. The outline of the work constituting the major and minors must be transmitted to the dean of the school before the student registers for his junior year of work.

### A Service Division

One of the very important functions of the School of Science and Literature is to serve the professional schools on the campus. Whatever curriculum a student may elect, whether it be Engineering, Agriculture, Education, Home Economics, or any other, he must take certain fundamental courses in English, mathematics, history, economics, and sometimes physics, foreign languages, public speaking, journalism, etc. All of these courses at Auburn are offered only in the School of Science and Literature, thereby eliminating unnecessary duplication and saving cost. The student who is preparing to become a professional teacher spends a large portion of his time in this school acquiring a fundamental education in the subject matter which he expects ultimately to teach and in broadening his education in general subjects. He takes his professional work in teacher-training in the School of Education. A student entering Auburn University who has not yet decided what particular vocation he desires to pursue will naturally register in the School of Science and Literature and may, if he so elects, transfer later to a technical school in the institution. Courses in other divisions of the institution are open to election by students registered in the School of Science and Literature.

**Foreign Language.** — In all curricula in this school that require three quarters in a foreign language the work must be in one language.

### Co-operative Program in Business Administration

The Co-operative Program in Business Administration is a program of education which offers students in Business Administration an opportunity to integrate their theoretical training with practical experience. Students alternate each quarter between school and a work assignment provided through the Co-operative Coordinator by business, industrial, and banking organizations. For further information, see page 89.

### Curriculum in Science and Literature (SL) and Pre-Law (PL)

Students desiring to pursue a curriculum leading to the degree Bachelor of Arts with majors in English, English-Journalism, Foreign Language, History, Speech and Sociology; or a curriculum leading to the degree Bachelor of Science with majors in Biological Sciences, Chemistry, Economics, Mathematics, Physics, and those preparing for Law School should select this curriculum. Prospective majors should consult departmental requirements beginning on page 183. This curriculum is designed to meet the minimum requirements for admission to standard law schools by the end of the sophomore year.

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 102	Prin. of Geography .5	EH 101	English Comp. ....5	EH 102	English Comp. ....5
HY 107	American History ....5	MH 112	Intr. College Math. .5	FL	Foreign Language* 5
MH 111	Intr. College Math. 5		Science (ZY 101 or		Science (ZY 102 or
LY 101	Use of Library .....1		CH 103, 103L)†		CH 104, 104L)†
MS	Military Training ....1		and †† .....5		and †† .....5
PE	Physical Education .1	MS	Military Training ....1	MS	Military Training ....1
		PE	Physical Education .1	PE	Physical Education .1

## SOPHOMORE YEAR

FL	Foreign Language .5	EH 253	Lit. in English .....5	EC 200	Gen. Economics ....5
HY 209	American Gov't ....5	FL	Foreign Language .5	EH 254	Lit. in English .....5
SY 201	Intro. Sociology** .5	HY 210	American Gov't .....5	PG 211	Psychology** .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

## For Science and Literature Students

During the junior and senior years the student not in advanced ROTC is to complete Philosophy 301 (3) and Logic 308 (3), seven additional five-hour courses in his major, three additional five-hour courses in each of two minors, five five-hour electives and four three-hour general electives; 211 quarter credit hours are normally required for graduation. All major and minor courses are to be numbered 200 or above. See available majors and minors below.

## Language and Literature Major

## JUNIOR AND SENIOR YEARS

The majors available in the Language-Literature Groups are as follows: English\*\*\*, Journalism and English\*\*\*, Foreign Language, Speech†††.

Students who choose one of the above majors will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Philosophy, Physical Education, Physics, Psychology, related subjects in Agriculture or Engineering, Secretarial Training, Sociology, Speech, Zoology.

## Science Major†

## JUNIOR AND SENIOR YEARS

The majors available in the Science Group are as follows: Biological Sciences, Chemistry, Mathematics††††, Physics.

Students who choose a Science Major will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Philosophy, Physical Education, Physics, Psychology, related subjects in Agriculture or Engineering, Secretarial Training, Sociology, Speech, Zoology.

† Majors in Mathematics or Physical Sciences will take CH 103-103L and CH 104-104L.

†† Must include Laboratory.

† Economics majors take EC 201.

\* Students who have credit for two high school units in a foreign language must begin third quarter's work in that language or take another language.

\*\* Science majors will take two quarters of Science here but Sociology and Psychology are to be taken during the Junior or Senior Year.

\*\*\* For special requirements for English and English-Journalism majors, see pages 255 and 258.

††† For special requirements for Speech majors, see page 309.

†††† For special requirements for Mathematics majors, see page 277.

## Social Science Major

### JUNIOR AND SENIOR YEARS

The majors available in the Social Science Group are as follows: Economics\*\*\*, History\*\*\*\*, Sociology\*\*.

Students who choose one of the above majors will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Philosophy, Physical Education, Physics, Psychology, Secretarial Training, Sociology, Speech, Zoology, related subjects in Agriculture or Engineering.

### For Pre-Law Students

By the end of the junior year the student preparing for a career in law and desiring to qualify for the combination B.S. degree (awarded at the end of the first year in Law School after completion of three years in this curriculum at Auburn), must have satisfactorily completed Philosophy 301 (3), Logic 308 (3), and the following five quarter-hour courses: Public Speaking 231, Argumentation and Debate 283, Accounting 211, Accounting 212 and History of England 472. In addition selection from the following five-hour courses is strongly recommended for completion of the Junior year: Typewriting 111\*, Advanced Composition 390, Statistics 345, Corporation Finance 463, Public Finance 465, Political Science 407, Social Problems 202 and Cultural Anthropology 203. Those students wishing to obtain the bachelor's degree at Auburn before entering Law School should continue this curriculum and complete the usual major, minors and electives described above for Science and Literature students.

### Business Administration (BA)

This program is designed to train for careers in the business world and government. During the first two years, emphasis is given to a liberal arts program of work which is so essential to all college graduates. The four-year curriculum gives the student a systematic introduction to and understanding of the major areas of Accounting, Marketing, Finance and Banking, Statistics, Personnel Management, Industrial Relations and Economics. Furthermore, during the junior and senior years, opportunity is given the student to major or concentrate in a particular area of business, thereby qualifying him for more specialized work in business or government. Business management at top, middle and lower levels, increasingly demands the services of the Business Administration and Commerce trained graduate.

#### FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	EH 102	English Comp. ....5	EC 103	Economic Geography .....5
HY 107	American History ....5	FL 121, 131 or 151, or		FL 122, 132 or 152, or	
MH 111	Intr. College Math. 5	Science (ZY 101 or		Science (ZY 102 or	
MS	Military Training ....1	CH 103) and †† ....5		CH 104) and †† ....5	
PE	Physical Education ..1	MH 112	Intr. College Math. 5	ST 111	Typewriting* .....5
LY 101	Use of Library .....1	MS	Military Training ....1	MS	Military Training ....1
		PE	Physical Education ..1	PE	Physical Education..1

\* Not open to students having one H.S. unit in typing.

\*\* For special requirements for Sociology majors, see page 307.

\*\*\* Economic Problems, EC 202, Statistics, EC 345, and Money and Banking, EC 360, are required for Economics majors.

\*\*\*\* For special requirements for History majors, see page 264.

†† Must include Laboratory.

**SOPHOMORE YEAR****FIRST QUARTER**

EC 205	Bus. Org. & Mgt. ....5
EC 211	Intr. Accounting ....5
SP 231	Public Speaking ....5
MS	Military Training ....1
PE	Physical Education ....1

**SECOND QUARTER**

EC 201	Prin. of Economics ....5
EC 212	Intr. Accounting ....5
HY 206	American Gov't ....5
MS	Military Training ....1
PE	Physical Education ....1

**THIRD QUARTER**

EC 202	Econ. Problems ....5
EH 253	Lit. in English ....5
PG 211	Gen. Psychology or
SY 201	Intr. to Sociology ....5
MS	Military Training ....1
PE	Physical Education ....1

**JUNIOR YEAR**

EC 331	Marketing Principles 5
EC 345	Statistics ....5
EC 360	Money & Banking ....5
1PA301	Intr. to Philosophy 3
EC 341	Business Law ....5
	Group Elective ....5
	Elective** ....5
1PA308	Intr. to Logic ....3
EC 350	Labor Problems ....5
EH 345	Bus. & Prof. Wrtg. ....5
	Elective** ....5
	Elective ....3

**SENIOR YEAR**

EC 465	Public Finance ....5
	Group Elective ....5
	Elective** ....5
	Elective ....3
	Group Elective ....5
	Elective** ....5
	Elective ....3
EC 463	Corp. Finance ....5
	Group Elective ....5
	Elective** ....5
	Elective ....3

**Total—211 quarter hours**

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

\* Not open to students having one H.S. unit in typing. In such cases an Economic Group Elective may be substituted.

\*\* Electives chosen in consultation with advisor.

1 Not required of students in Advanced ROTC Program.

**GROUP ELECTIVES**

EC 357	Economic History of Europe
EC 358	Economic History of the United States
EC 304	Geography of South America
EC 305	Geography of North America
EC 306	Geography of Europe
EC 307	Geography of Asia
EC 308	Geography of Africa
EC 311-12	Intermediate Accounting
EC 314	Income Tax Accounting
EC 321	Property Insurance
EC 332	Life Insurance
EC 323	Real Estate
EC 332	Credits and Collections
EC 333	Salesmanship
EC 342	Business Law
EC 402	American Industries
EC 404	Office Management
EC 405	Cultural Geography of the World
EC 407	World Resources
EC 411-12	Cost Accounting
EC 414	Adv. Income Tax Accounting
EC 416	Auditing
EC 417-18	Advanced Accounting
EC 419	Governmental Accounting
EC 432	Advertising
EC 433	Retail Store Management
EC 434	Purchasing
EC 435	Advanced Marketing
EC 436	Marketing and Business Research
EC 437	Sales Management
EC 438	Retail Merchandising
EC 442	Personnel Management
EC 444	Labor Legislation
EC 445	Industrial Relations
EC 446	Business Cycles
EC 449	Adv. Personnel Administration
EC 450	Job Evaluation and Incentive Systems
EC 451	Intermediate Economic Theory
EC 452	Comparative Economic Systems
EC 460	Economic Development of the South
EC 462	Monetary Theory and Policy
EC 464	Investments
EC 471	Foreign Trade
EC 472	Economics of Transportation
EC 473	Traffic Management
EC 474	Advanced Statistics
EC 476	Motor Transportation
EC 480	Business Policies and Administration
IM 306	Industrial Management
IM 310	Methods Engineering
PG 461	Industrial Psychology
ST 302	Office Machines
SY 201	Introductory Sociology
SY 401	Population
SY 408	Industrial Sociology

**Secretarial Training (ST)**

The course in Secretarial Training is designed to meet the needs of those who plan to fit themselves for secretarial positions in business, government and professional offices. The program of work outlined leads to the degree of Bachelor of Science.

In order to determine placement in the proper course personal conferences with students who have had shorthand and typewriting elsewhere will be held during registration.

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 102	Prin. of Geog. or	EH 102	English Comp. ....5	FL 121, 131 or 151	.....5
EC 103	Intro. Econ. Geog. .5	MH 111	Intr. College Math. 5	MH 112	Intr. Col. Math. or
EH 101	English Comp. ....5	ST 101	Secretarial Science* 5	EH 108	Classical Lit. ....5
HY 107	American History ....5	PW 112	Hygiene .....1	ST 102	Secretarial Science .5
PW 111	Hygiene .....1	PW	Physical Education .1	PW 113	Hygiene .....1
PW	Physical Education .1			PW	Physical Education .1
LY 101	Use of Library .....1				

## SOPHOMORE YEAR

ST 203	Secretarial Science .5	EC 211	Intro. Accounting ....5	EC 212	Intro. Accounting ....5
EC 200	Gen. Economics or	PG 211	Psychology .....5	HY 206	American Gov't ....5
EC 201	Prin. of Economics .5	ST 204	Secretarial Science .5	SP 231	Public Speaking ....5
FL 122, 132 or 152	.....5	HY 205	Current Events .....1	ST 200	Filing .....1
HY 205	Current Events .....1	PW	Physical Education .1	PW	Physical Education .1
PW	Physical Education .1				

## JUNIOR YEAR

EC 341	Business Law .....5	SY 201	Intro. Sociology .....5	ST 301	Dictation .....5
EC 345	Statistics .....5	ST 300	Sec. Procedure .....5	EH 345	Bus. & Professional
ST 302	Office Machines .....5	ST 303	Adv. Office Mach. .5		Writing .....5
PA 301	Intro. to Philosophy 3	PA 308	Intro. to Logic or		Elective .....5
		PA 302	Ethics .....3		Elective .....3

## SENIOR YEAR

EC 404	Office Management .5	EC 442	Personnel Mgt. ....5	ST 402	Office Appren-
	Elective .....5	ST 401	Dictation .....5		ticeship .....5
	Elective .....5		Elective .....5		Group Elective** .5
	Elective .....3		Elective .....3		Group Elective** .5
					Elective .....3

Total—211 quarter hours

\* Open to ST majors and others who have had ST 111 or equivalent typing credit.

\*\* Refer to page 185 for Group Electives.

## Mathematics (MH)

This curriculum is designed to prepare students for graduate study and eventual careers as Mathematicians.

## FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	EH 102	English Comp. ....5	EH 108	Classical Literature 5
FL 121	French** .....5	FL 122	Elem. French** .....5	FL 221	Inter. French** .....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	MH 161	Anal. Geom. & Cal. 5
LY 101	Use of Library .....1	PE	Physical Education .1	PE	Physical Education .1
PE	Physical Education .1	MS	Military Training ....1	MS	Military Training ....1
MS	Military Training ....1				

## SOPHOMORE YEAR

EH 253	Lit. in English .....5	EH 254	Lit. in English .....5	HY 207	World History .....5
MH 262	Anal. Geom. & Cal. 5	MH 263	Anal. Geom. & Cal. 5	MH 264	Anal. Geom. & Cal. 5
PS 201	Mechanics .....5	PS 202	Heat, Light, &	PS 203	Elec. & Magnetism 5
PE	Physical Education .1		Sound .....5	PE	Physical Education .1
MS	Military Training ....1	PE	Physical Education .1	MS	Military Training ....1
		MS	Military Training ....1		

## JUNIOR YEAR

FL 151	Elem. German** .....5	FL 152	Elem. German** .....5	FL 251	Inter. German** .....5
HY 208	World History .....5	MH 420	Adv. Calculus .....5	MH 421	Adv. Calculus .....5
MH 361	Diff. Equations I ....5	PA 307	Sci. Reasoning .....5	MH 443	Topics in Geom. ....5
PA 301	Intro. to Philosophy 3		Elective .....3		Elective .....3

## SENIOR YEAR

MH 331	Higher Algebra .....5	MH 431	Intro. Mod. Algebra 5	MH	Elective 1 .....5
	**Elective 2 Sequence 5		**Elective 2 Sequence 5		**Elective 2 Sequence 5
	Elective 3 .....5		Elective 3 .....5		Elective 3 .....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

\* Not required of students in advanced ROTC programs.

\*\* The order in which these sequences are taken may be interchanged. The French sequence may be replaced by 15 hours of either Russian or Italian.



1. MH Elective—to be taken from MH 435, 437 or 444.

2. These electives are to include any one of the following sequences: (a) PS 305 Introduction to Modern Physics, PS 401 Theoretical Physics I (mech.), PS 402 Theoretical Physics II (mech.), (b) ZY 101, ZY 102 General Zoology, ZY 400 Genetics or BY 401 Princ. of Biometry, (c) BY 201, BY 202 General Botany, ZY 400 Genetics or BY 401 Princ. of Biometry, (d) CH 103, 103L, 104, 104L, and 105, 105L, General Chemistry, or CH 207 Organic Chemistry.

3. The student must consult with the Department of Mathematics on the selection of these electives. They are used to meet the needs and interests of the individual students in line with fulfilling the objectives of this curriculum. They may be taken in the biological, physical or social sciences, literature, languages, history, education or mathematics.

### Physics (PS)

This curriculum is designed to prepare students for graduate study and eventual careers in research and teaching in Physics. Equipment is available for advanced laboratory work and research in several outstanding fields.

#### FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 111	Chemistry .....5	CH 112	Chemistry .....5	CH 113	Chemistry .....5
HY 107	American History ....5	EH 101	English Comp. ....5	EH 102	English Comp. ....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	MH 161	Anal. Geom. & Cal. 5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

#### SOPHOMORE YEAR

EH 253	Lit. in English .....5	FL 121	Elem. French .....5	FL 122	Elem. French .....5
MH 262	Anal. Geom. & Cal. 5	MH 263	Anal. Geom. & Cal. 5	MH 264	Anal. Geom. & Cal. 5
PS 201	Mechanics .....5	PS 202	Heat, Sound and	PS 203	Elec. and Mag. ....5
MS	Military Training ....1		Light .....5	MS	Military Training ....1
PE	Physical Education ..1	MS	Military Training ....1	PE	Physical Education ..1
		PE	Physical Education ..1		

#### JUNIOR YEAR

FL 151	Elem. German .....5	FL 152	Elem. German .....5	CH 206	Quant. Analysis .....5
MH 361	Diff. Equa. I .....5	MH 402	Engin. Math. I .....5	PS 305	Modern Physics .....5
PS 301	Intermediate Elec. & Magnetism .....5	PS 302	Electronics .....5		Elective .....5
	Elective .....3		Elective .....3		Elective .....3

#### SENIOR YEAR

CH 407	Physical Chemistry ..5	CH 408	Physical Chemistry ..5	PS 404	Thermodynamics .....5
PS 401	Theoretical Phys. I 5	PS 303	Optics .....5		Group Elective .....5
PS 405	Nuclear Physics .....5	PS 402	Theoret. Physics II 5		Elective .....5
	Elective .....3		Elective .....3		Elective .....3

#### Total—211 quarter hours

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

#### GROUP ELECTIVES

MH 403-4	Engineering Mathematics II and III	PS 410	Introduction to Reactor Physics II
PS 304	Applied Spectroscopy	PS 413	Introduction to X-Ray Crystallography
PS 409	Introduction to Reactor Physics I	PS 421	Advanced Electronic Circuits

## Curriculum in Pre-Professional Science

For Students in Premedicine (PM), Predentistry (PD) and Preveterinary Medicine (PV)

The first two years of this curriculum meet the minimum course requirements for admission to the Auburn School of Veterinary Medicine. Refer to page 189 for particulars. Standard schools of dentistry and medicine require at least two and three years, respectively. Each student is urged to continue an additional one or two years beyond the bare minimum demands of the professional school of his choice, however. The Bachelor of Science degree is awarded to those completing the four-year curriculum before entering pro-

fessional school. Students admitted to dental, medical or veterinary medical school before graduation, but after having completed the first three years of this curriculum at Auburn and including General Chemistry 105 and 105L, may transfer credits for the first year in professional school back to Auburn and receive the B.S. degree.

## FRESHMAN YEAR

## FIRST QUARTER

EH 101	English Comp.	5
MH 111	Intr. College Math.	5
ZY 101	Zoology	5
LY 101	Use of Library	1
MS	Military Training	1
PE	Physical Education	1

## SECOND QUARTER

CH 103	General Chemistry	4
CH 103L	Gen. Chem. Lab.	1
EH 102	English Comp.	5
ZY 102	Zoology	5
MS	Military Training	1
PE	Physical Education	1

## THIRD QUARTER

CH 104	General Chemistry	4
CH 104L	Gen. Chem. Lab.	1
HY 107	American History	5
MH 112	Intr. College Math.	5
MS	Military Training	1
PE	Physical Education	1

## SOPHOMORE YEAR

BY 201	General Botany	5
CH 105	General Chemistry	3
CH 105L	Gen. Chem. Lab.	2
or		
AH 200	Intro. An. Husb.*	5
PS 205	Physics	5
MS	Military Training	1
PE	Physical Education	1

CH 207	Organic Chemistry	5
HY 206	American Gov't	
or		
PH 202	Veterinary Poul.*	5
PS 206	Physics	5
MS	Military Training	1
PE	Physical Education	1

CH 208	Organic Chemistry	5
EH 141	Medical Vocab.	5
PS 210	Physics	
or		
AH 204	Animal Nutrition*	5
MS	Military Training	1
PE	Physical Education	1

## JUNIOR YEAR

EH 345	Business and Prof. Writing	5
FL 151	German**	5
ZY 301	Comp. Anatom.y	5
IPA 301	Intro. to Philosophy	3
HY 305	Current Events***	1

CH 206	Quant. Analysis	5
FL 152	German**	5
SY 201	Sociology	5
IPA 308	Intro. to Logic	3
HY 305	Current Events***	1

CH 316	Physical Chemistry	5
FL 251	German**	5
ZY 302	Vertebrate Embry.	5
Elective		3
HY 305	Current Events***	1

## SENIOR YEAR

EC 200	Gen. Economics	5
Group Elective		5
Group Elective		5
Elective		3

PG 211	General Psychology	5
Group Elective		5
Group Elective		5
Elective		3

SP 231	Public Speaking	5
Group Elective		5
Group Elective		5
Elective		3

Total—211 quarter hours

\* To be taken by preveterinary students but not by premedical or predental students.

\*\* Students who have credit for two high school units in German must begin the third quarter's work in that language or take another language.

\*\*\* Not required for graduation but urged in preparation for Medical and Dental Aptitude tests. Three quarters of Current Events recommended throughout Junior year and may be used in place of a three-hour elective.

† Not required of students in Advanced ROTC Program.

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

## GROUP ELECTIVES

AT 101	Freehand Drawing
CH 301	Biochemistry
CH 305	Organic Chemistry
EC 341-2	Business Law
EH 253	Literature in English
EH 357-8	American Literature
FL 252	Advanced German
HY 207-8	World History
MH	Advanced Mathematics

PG 435	Abnormal Psychology
SY 304	Minority Groups
SY 301	Sociology of the Family
VM 200	General Microbiology
VM 220-1	Human Anatomy and Physiology
ZY 308	Micrology
ZY 400	Genetics
ZY 404	Medical Entomology
ZY 409	Histology

# School of Veterinary Medicine

J. E. GREENE, *Dean*

**THE SCHOOL OF VETERINARY MEDICINE** offers a fully accredited program of training leading to the degree of Doctor of Veterinary Medicine. Completion of the curriculum requires four years in the professional school after completion of the pre-professional curriculum which requires a minimum of two years.

An expanding program of research contributes to the advancement of knowledge in the prevention and control of animal diseases.

**Non-curricular Educational Programs.** — All students enrolled in veterinary medicine are eligible for membership in the Student Chapter of the American Veterinary Medical Association. This organization affords the student an excellent opportunity to listen to visiting lecturers of varied specialties from all parts of the world. Practicing veterinarians regularly appear on the programs and discuss many phases of veterinary practice.

Each year the faculty presents a four-day conference for graduate veterinarians and students. Demonstrations presented are shown to small groups by means of closed circuit television. Speakers on these programs are men of wide experience and prominence in specialized fields of veterinary medicine.

Post-graduate short courses are presented each year. Announcements are made prior to each course. The instruction is given by specialists in the various fields of veterinary medicine.

## Admission

Two years of general college work, with a minimum scholastic average of 1.25 on all required courses, is required for admission. A grade of D on any required course will not be accepted. The Committee on Admissions of the School of Veterinary Medicine may require a personal interview with any applicant and may also require a reading comprehension test, or an examination on any required course. The School of Science and Literature offers a two-year Pre-Veterinary Medicine Curriculum which is available to residents of Alabama and is shown on page 188. Applications for admission to the pre-veterinary course should be made directly to the Registrar, Auburn University.

Residents of states other than Alabama should complete the pre-professional requirements at institutions within their home state, since they are not eligible for admission to the pre-professional curriculum at Auburn University. Such work should include 10 quarter hours of inorganic chemistry, 10 quarter hours of organic chemistry, 10 quarter hours of physics, 5 quarter hours of botany, 10 quarter hours of zoology, 10 quarter hours of English Composition, 10 quarter hours of introductory college mathematics, 5 quarter hours of poultry science, 5 quarter hours of animal nutrition, 5 quarter hours of introductory animal science, 5 quarter hours of American history, and 5 quarter hours of medical vocabulary. Ten quarter hours of Latin or modern language may be substituted for medical vocabulary, or this course may be taken through the Correspondence Study Department, Auburn University. Three semester-hour

courses will be accepted as the equivalent in subject-matter content of five quarter-hour courses.

Admission to the School of Veterinary Medicine must be gained through making formal application not less than four months in advance of entrance date. Applications will be considered only from students who submit evidence of satisfactory completion of all the above requirements. Students will be admitted at the beginning of the fall quarter only.

**Admission under the Regional Plan.** — Under the Regional Plan for Veterinary Training, the School of Veterinary Medicine serves five states — Alabama, Florida, Mississippi, Kentucky and Tennessee. While there is no limit on the number of applications, the School's facilities make it necessary to restrict admissions to 75 new students each year — 35 from Alabama and a fixed share of the other 40 from each of the other four participating states.

The Land-Grant Institution in each state participating under the Southern Regional Education plan maintains a counseling and guidance service for students desiring admission to the School of Veterinary Medicine. Students attending other than Land-Grant Institutions of the several states should contact the counseling and guidance service for information and advice concerning courses which will be acceptable in the pre-veterinary curriculum. Inquiries should be made early and addressed to:

Alabama:	Dean, School of Science & Literature Auburn University Auburn, Alabama
Florida:	Dean, School of Agriculture University of Florida Gainesville, Florida
Mississippi:	Dean, School of Agriculture Mississippi State University State College, Mississippi
Kentucky:	Head, Department of Animal Pathology University of Kentucky Lexington, Kentucky
Tennessee:	Dean of Resident Instruction School of Agriculture University of Tennessee Knoxville, Tennessee

The procedure in making application for admission to the School of Veterinary Medicine under the Regional Plan varies in the several states. An officer, or board, in each state certifies applicants as to residence and evaluates the courses completed for meeting the pre-veterinary requirements. Courses acceptable in the degree program at the State Land-Grant Institution will be considered acceptable in the Auburn University pre-veterinary program. An applicant who wishes to be included in his state's list of eligibles for entrance into the School of Veterinary Medicine should send his completed application

together with three letters of recommendation and a transcript covering all college work completed to the appropriate address as indicated below:

Alabama:	Dean, School of Veterinary Medicine Auburn University Auburn, Alabama
Florida:	Secretary Board of Control for Fla. Institutions of Higher Learning Tallahassee, Florida
Kentucky:	Chairman, Committee on Regional Veterinary Training University of Kentucky Lexington, Kentucky
Mississippi:	Executive Secretary Board of Trustees for Institutions of Higher Learning State Capitol Jackson, Mississippi
Tennessee:	Committee on Regional Veterinary Training University of Tennessee Knoxville, Tennessee

The final selection of students to be admitted is made by the Committee on Admissions of the School of Veterinary Medicine, Auburn University. These selections are made from the applicants who have been certified by the committees in the respective states after giving due consideration to scholastic record and general adaptability for the profession. The right is reserved to accept or reject admission of any applicant.

**Microscopes.** — In order to be admitted to the School of Veterinary Medicine, students must own a compound microscope acceptable to the faculty. Microscopes may be purchased through the Supply Store of Auburn University for cash in full amount less any available discounts.

### **Scholastic Requirements**

Students enrolled in the School of Veterinary Medicine who make a scholastic average less than 1.25 for any two quarters of one academic year may be dropped from the School of Veterinary Medicine for scholastic deficiency. A student who makes a grade of "F" on any course may be required to withdraw from the School of Veterinary Medicine until such time as the course is offered again. Such student may be required to repeat certain other courses in the curriculum for that quarter.

Students who are dropped under the above provisions are eligible for admission to other curricula provided they meet the general scholastic requirements for continuance in college. The scholastic penalties incurred while enrolled in the School of Veterinary Medicine will become a part of the student's record.

## Veterinary Curriculum

Given below are the subjects together with the credit hours required for each of the four years in the School of Veterinary Medicine.

Fourth-year veterinary students will be required to continue in school during the summer, fall and winter quarters. Following completion of the three quarters of senior academic work, each student will be required to serve an internship of one quarter with a reputable practicing veterinarian. A certificate of satisfactory completion of this intership will be required for graduation.

### Curriculum in Veterinary Medicine (VM)

FIRST YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
VM 320 Anatomy .....5	VM 321 Anatomy .....5	VM 322 Anatomy .....5
VM 326 Histology .....5	VM 327 Organology .....5	VM 328 Embryology .....5
VM 330 Gen. Microbiology ..5	VM 331 Inf. & Immunity ....5	VM 336 Physiology .....5
VM 333 Zootechnics .....3	VM 329 Physiology .....3	VM 334 Zootechnics .....2
SECOND YEAR		
VM 436 Pharmacology .....5	VM 437 Pharmacology .....3	VM 438 Pharmacology .....5
VM 443 Physiology .....5	VM 444 Physiology .....5	VM 452 Clinical Pathology ..3
VM 450 General Pathology ..5	VM 451 Systemic and Special Pathology ....5	VM 458 Parasitology .....3
VM 456 Parasitology .....3	VM 457 Parasitology .....5	VM 453 Systemic and Spec. Pathology .....2
		VM 461 Pathogenic Microbiology .....5
THIRD YEAR		
VM 500 Vet. Medicine .....5	VM 501 Vet. Medicine .....5	VM 502 Vet. Medicine .....5
VM 510 Small Animal Med. ..5	VM 503 General Surgery ....3	VM 504 Large Animal Surgery .....5
PH 422 Avian Diseases .....5	VM 521 Milk Sanitation ....5	VM 512 Small Animal Surgery .....5
VM 526 Physical Diag. & Clinical Technique ..2	VM 527 Physical Diag. & Clinical Technique ..2	VM 519 Sm. An. Medicine ..3
VM 528 Applied Anatomy ....2	VM 530 Radiation Biology & Diag. Radiology ..5	VM 508 Large Animal Clinic 1
	VM 531 Jurisp. & Ethics ....1	VM 518 Small Animal Clinic 1
FOURTH YEAR		
VM 551 Jurisp. & Ethics ....1	VM 552 Jurisp. & Ethics ....1	VM 556 Infectious Diseases ..5
VM 554 Vet. Medicine .....3	VM 555 Infectious Diseases ..5	VM 558 Applied Anatomy ....1
VM 557 Applied Anatomy ....1	VM 561 Vet. Medicine .....5	VM 582 Seminar .....3
VM 560 Obstetrics .....5	VM 563 Large Animal Sur- gery & Ob. Ex. ....1	VM 588 Veterinary Medicine 5
VM 575 Meat Sanitation ....5	VM 573 Sm. An. Surg. Ex. ..1	VM 564 Large Animal Sur- gery & Ob. Ex. ....1
VM 562 Large Animal Sur- gery & Ob. Ex. ....1	VM 567 Large Animal Clinic 2	VM 574 Sm. An. Surg. Ex. ..1
VM 572 Sm. An. Surg. Ex. ..1	VM 577 Small Animal Clinic 2	VM 568 Large Animal Clinic 2
VM 566 Large Animal Clinic 2		VM 578 Small Animal Clinic 2
VM 576 Small Animal Clinic 2		

Total—225 quarter hours

(See page 188 for Pre-Veterinary Medicine requirements.)



# The Graduate School

W. V. PARKER, *Dean*

**A**LL REGULATIONS governing the Graduate School are designed to equal or exceed the minimum standards recommended by the Conference of Deans of Southern Graduate Schools and the Commission on Colleges and Universities of the Southern Association of Colleges and Secondary Schools.

Any student with a bachelor's degree from an accredited college or university may apply to the Dean of the Graduate School for admission. Application for admission, the form for which may be secured from the Graduate School, must be accompanied by a transcript of undergraduate credits. It must be received at least three weeks before registration. Every applicant must have a satisfactory undergraduate record and show adequate preparation in the field in which he desires to major as determined by the screening committee of the school or department concerned.

A special Bulletin of the Graduate School contains detailed information on the regulations of the Graduate School, the courses offered for graduate credit, the requirements for degrees, fellowships and assistantships, and other matters pertaining to graduate work in this institution. Seniors wishing to register for graduate courses should consult this Bulletin for regulations concerning such registration. A Bulletin may be obtained upon request from the Dean of the Graduate School.

The Graduate School administers graduate work leading to the degrees listed below.

## The Master's Degree Program

**Master of Science** in the areas of Agricultural Economics, Agricultural Education, Agricultural Engineering, Agronomy, Animal Science, Animal Nutrition, Botany, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Dairy Manufacturing, Dairy Production, Education, Electrical Engineering, Entomology, Fisheries Management, Forestry, Game Management, Home Economics, Horticulture, Mathematics, Mechanical Engineering, Nuclear Science, Ornamental Horticulture, Pharmacy, Physics, Poultry Science, Psychology, Veterinary Medicine, and Zoology.

**Master of Arts** in the areas of English and History.

**Other Master's Degrees:** Master of Agriculture, Master of Agricultural Education, Master of Applied Art, Master of Building Construction, Master of Education, Master of Home Economics.

## The Specialist in Education Program

**Specialist in Education** in the areas of Curriculum, Teaching, Administration, Supervision, and Guidance.

## The Doctoral Degree Program

**Doctor of Education** in the areas of School Administration, Supervision and Guidance; and Curriculum and Teaching.

Doctor of Philosophy in the Department of Agronomy and Soils, the Department of Animal Science, the Department of Botany and Plant Pathology, the Department of Chemistry, the Department of Mathematics, the Department of Poultry Science, the Department of Zoology-Entomology, and an interdisciplinary program for Agricultural Engineers.

## Research Program at the Oak Ridge Institute of Nuclear Studies

Auburn University is one of the sponsoring institutions of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Oak Ridge Institute our Graduate Research Programs have at their disposal the facilities of the National Laboratories in Oak Ridge and the research staffs of these laboratories. When advanced degree candidates in certain areas have completed their resident work at Auburn it is possible, by special arrangement, for them to go to Oak Ridge to do their research problems and prepare their theses. In addition, it is possible for our faculty members to obtain appointments on the Oak Ridge Research Participation Program for varying periods, usually not less than three months, in order to pursue advanced studies in their fields of specialization. Thus, both faculty and students may keep abreast of the most modern and up-to-date developments in atomic and nuclear research that is in progress at the Oak Ridge Laboratories.

The students will go to Oak Ridge on Oak Ridge Graduate Fellowships. The stipend will be determined by the number of dependents of the student and by the level of work which he is prepared to do. Faculty members may work in Oak Ridge on stipends commensurate with their current college salary and rank.

Information on the opportunities for research in the Oak Ridge Laboratories is available in the office of the Dean of the Graduate School.

## Grant-in-Aid Research Program

The Grant-in-Aid Program has for its purpose the stimulation of campus-wide interest and activity in basic research among our faculty and, indirectly, the upgrading and vitalizing of teaching on advanced levels of instruction. Funds made available by the University Administration are granted to faculty members in support of worthy research projects which as a rule have already been initiated and require only modest sums for their completion. Applications for grants are critically examined by a representative Research Committee. The Committee makes recommendations to the Dean of the Graduate School who presents the applications to the President for final approval.

# The Auburn Research Foundation

W. C. JONSON, JR., *Director*

THE AUBURN RESEARCH FOUNDATION is composed of alumni, prominent scientists, scholars, and members of the teaching and research staffs of Auburn University. It was incorporated in November 1944, as a non-profit corporation designed to serve as the fiscal agency solely in aid of research. It was formed to promote the general welfare of the State of Alabama and the citizens thereof, through the development of educational and scientific research; to encourage and foster through education a desire for research; to discover and develop research talent by means of graduate studies and research work; to provide means whereby discoveries and inventions may be developed, patented, protected, used, and licensed, so as to be of maximum use to the State and the Southern region; to cooperate with all education, research, agricultural, and industrial organizations for the betterment of the South and especially the State of Alabama and its citizens; to foster and encourage education and learning in natural science, social science, the humanities, agriculture, and engineering and to promote the liberal and practical education of the citizens of Alabama in the several pursuits of life.

The Auburn Research Foundation functions as an agency of Auburn University. Its officers are as follows: President, Dr. Ralph B. Draughon; Vice-President, Dr. Robert C. Anderson; Treasurer, Mr. W. T. Ingram; Secretary-Director, W. C. Jonson, Jr.

In the furtherance of its objectives and purposes, the Auburn Research Foundation has full power and right to accept by gift, devise, or bequest, or to acquire by purchase, to assign, to exchange, or to dispose by any other lawful manner, money, patents, processes, and property of all kinds, from any person, firm or corporation, or other organization as necessary for proper functioning.

In the pursuit of the objectives of the Foundation a number of types of research projects and fellowships have been developed:

1. The sponsoring of research projects by funds of the Auburn Research Foundation.

2. Contractural research for specific investigations and development work to be performed at Auburn University under the administration of the Auburn Research Foundation.

3. Industrial fellowships established for one to three years with the definite understanding that the recipient of the fellowship will work toward his master's or doctor's degree as the case may be.

4. Joint cooperative research projects in which a definite research investigation or development is worked on at the request of a sponsor who finances the project and who has representation on a joint advisory board for directing the project.

5. Direct grants to the Auburn Research Foundation which are intended to stimulate research and development in an area or discipline specified by the donor but which are not controlled by the donor. Monies received in such

grants usually come from foundations established by industries or the government.

The research projects serve a number of industrial concerns, governmental agencies, boards and foundations. They offer an opportunity for faculty and staff members to develop their research talents. They also supplement the earning capacity of faculty and staff members and provide part-time work for students.

## Correspondence Study Program

ROBERT L. SAUNDERS, *Director*

**T**HE CORRESPONDENCE STUDY PROGRAM provides undergraduate instruction for persons not able to attend college on a regular basis. Courses are available in the areas of English, education, economics, history, mathematics, physical education, psychology, and sociology. Others may be added as the demand warrants. All courses carry college credit.

Correspondence courses parallel those given in the University and are taught by members of the University faculty. They have been prepared to give the student the greatest possible mastery of the course content and to secure for him the instructional and evaluative services of the instructor.

**Organization of Courses.**— Courses consist of varying amounts of credit and varying numbers of units. Four work units are required for each quarter hour of credit. Each unit requires certain textbook readings and written preparation of lessons. Written work is submitted to the Correspondence Study Office, which forwards it to the instructor for criticism, correction, and grading. Supplementary reading and reports may be required of the student by the instructor on any assignment. A complete course outline, containing all information and instructions required for completing the course, is sent to the student when he registers.

**Qualifications.**— Any person who might profit from college level courses is eligible to enroll. No entrance examination is required for admission to correspondence study, but the right is reserved to reject any applicant who does not furnish complete or satisfactory data on the formal application. Enrollment for correspondence study does not constitute admission to Auburn University.

Restrictions placed on Auburn University students regarding correspondence work are described in the regulations in Section III of the Correspondence Study Bulletin. The use of correspondence work in regular programs at Auburn University is explained on page 74 of the Auburn University Bulletin.

**Credit.**— Undergraduate quarter-hour credit equivalent to that earned in regular college classes is given for correspondence work. (Credit allowed for each course is indicated in the course listing in the Correspondence Study Bulletin.) Although graduate credit cannot be earned by correspondence, certain undergraduate deficiencies may be cleared in this manner.

**Examinations.** — A final examination is required in each course upon completion of all unit work. The examination should be taken in the Correspondence Study Office but may, on approval, be taken elsewhere under the supervision of an approved proctor. Proctors approved are city or county superintendents of schools, principals of accredited senior high schools, and/or deans and department heads of colleges. Students in military service may arrange to take the examination under the supervision of the Education Officer of their station.

**Fees.** — Course fees are \$10.00 for the first quarter hour and \$5.00 for each additional hour of course credit. Fees are payable in advance and should accompany the application.

For application form and further information write to Robert L. Saunders, Director, Auburn University Correspondence Study Program.

## Educational Television

EDWARD P. WEGENER, *Director*

THE EDUCATIONAL TELEVISION DEPARTMENT was established in December, 1954 and began presenting programs in October, 1955. Its main purpose is to bring to the people of the State, by way of the Alabama Educational Television Network, the best material, both informational and educational, the institution has to offer. It serves each School, Division and Department by bringing their resources and materials to the people of the State. Programs are planned not only from the area of general adult education but in in-school, formal education at the high school and college levels and for children outside of school.

Students, selected through a Television Workshop, take an active part in program production and the technical operation of the station. This gives them an opportunity to learn television techniques in actual broadcast situations.

The department is housed in modern studios on the campus. Besides having a normal complement of broadcasting equipment, the department is equipped for the making of double system, sound-on-film motion pictures, from shooting through printing. It is also equipped for the making of kine-scope recordings. From the studios programs originate and are telecast over the Alabama Educational Television Network five days each week, Monday through Friday.

Alabama Educational Television Network programs may be seen over WBIQ, Channel 10 in Birmingham; WCIQ, Channel 7, in Munford, or WAIQ, Channel 2 in Andalusia.

## Library Facilities

**T**HE LIBRARIES of Auburn University include the Main Library and branches for the Schools of Agriculture, Architecture, Chemistry, Engineering, Pharmacy, and Veterinary Medicine.

On July 1, 1960, the libraries contained 277,786 bound volumes and thousands of state and federal government publications. The Library is a depository for both federal publications and those of the Atomic Energy Commission. Experiment station bulletins in both agriculture and engineering are received regularly. Thousands of books, dissertations, and documents are available on microfilm or microcards, as well as important newspaper and other periodical titles. More than 5,000 serials are being received currently. Back files are available for a large portion of these titles.

The Main Library is administratively organized by departments: Acquisitions, Catalog, Circulation, and Reference.

All library materials for the University are located and purchased through the Acquisitions Department, which has available trade lists and catalogs of suppliers and publishers throughout the world.

Materials for all libraries are cataloged through the centralized Catalog Department, where a file of holdings of all libraries in the University is maintained. The classification system is that of the Library of Congress.

The Circulation Department maintains and services the reserve area, the general circulation, the browsing collection in the library rotunda, and the periodicals section. The Department also assigns stack permits and carrels to graduate students and staff members. A file of educational films is available through this Department for class showing.

The Reference Department maintains a large reading, special bibliographic aids, a directory service, the interlibrary loan service for graduate students and staff members, the microcard and microfilm files, and the readers for these materials.

The libraries contain several valuable special collections, most of which were given by friends or patrons. Among these are the George Petrie Memorial Collection, presented by Miss Kate Lane; the Flagg Architecture Library, given by the Alabama Institute of Architects; the Hodson Collection on the History of Agriculture, presented by Mr. Edgar A. Hodson, Arkansas State Agronomist; the personal library of the late Mrs. Ross, widow of Dr. B. B. Ross, a member of the faculty for many years; and an excellent sports collection, donated by Mr. C. W. (Bill) Streif of Birmingham. The Library also maintains a collection of documents and publications in Alabama history and government along with the papers and publications of the University in the Alabama Room.

Borrowing privileges are extended to the members of the administrative, research, instructional, and extension staffs of the University, also to governmental departments and agencies located in Auburn. Loan privileges are also extended to all citizens of the state by inter-library loan requests through their local libraries; to all students in residence; and to active, honorary, or research members of the Auburn Research Foundation.



# Description of Courses by Departments

This section contains all courses offered in the University listed by departments arranged in alphabetical order.

Courses bearing the number from 000 to 099 inclusive are remedial courses carrying no degree credit; those bearing the numbers 100 to 199, inclusive, are normally offered for freshmen; those from 200 to 299, sophomores; 300 to 399, juniors; 400 to 499, seniors; 500 to 599, fifth year students; 600 to 699, graduate students and, 700, doctoral candidates.

Description of courses in each department include: (a) course number; (b) descriptive title; (c) in parentheses, credit in quarter hours i.e. one quarter (5), two quarters (5-5), etc.; (d) lecture and laboratory hours for courses with laboratory (where no statement is made the course consists of lecture periods equal in number to course credit); (e) the quarter in which course is offered; (f) prerequisite (Pr.); (g) name of instructor; (h) description of subject matter and method.

Preceding the description of courses for each department is a list of the departmental faculty.

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## General Elective Courses

Courses listed below are of non-technical and cultural nature offered as lecture and reading courses with three credits per quarter, for use primarily as electives in the junior, senior, and fifth years. With the approval of the dean they may be used as general electives elsewhere in the curriculum.

**AF. Advanced Air Science (3). Lec. 4, Drill 2.**

For students selected.

**AR 360. Appreciation of Architecture (3). (Not open to AR and ID students.)**

A survey of architectural development with particular attention to American and contemporary examples. Illustrated lectures, readings.

**AR 370. Spaces of Living (3). Pr., junior standing. (Not open to AR and ID students.)**

A survey of contemporary concepts of design, spatial organization, materials, furnishings, and gardens in relation to all major types of residential architecture. Illustrated lectures, readings, reports.

**AT 332. American Painting and Sculpture (3).**

A survey of American art and artists from the Colonial period to the present day. Illustrated lectures, readings.

**AT 431. Contemporary Art (3).**

A survey of modern painting, sculpture, and industrial design. Illustrated lectures, readings.

**BY 308. Plants and Man (3). Lec. 3. Summer.**

A brief introduction to the botanical characteristics of most categories of plants including their kinship, origin, past and present distribution, and various ways utilized, as timbers, fruits and other foods, fibers, forage, ornamentals, drugs, etc. Local field trips will be made. (Restricted to students who have no more than 5 hours credit in Botany.)

**CH 342. Geology (3).**

A course in general geology.

**DR 313. Drama Appreciation I (3). (Not open to Dramatic Arts majors.)**

A survey of the theatre and stagecraft from early times to the present day, emphasizing the social and artistic position of the stage in each civilization. Illustrated lectures, readings.

**DR 314. Drama Appreciation II (3). (Not open to Dramatic Arts majors.)**

A survey of contemporary plays and productions, aimed to make theatre-going intelligent fun.

**EC 206. Socio-Economic Foundations of Contemporary America (3).**

An appraisal and survey of the social and economic developments which lead to and help toward an understanding of present day American society. Economic and social institutional development is studied against the background of the Industrial Revolution.

**EC 301. Geo-Political Basis of World Powers (3). Pr., junior standing.**

Deals with the interaction between the natural-physical environment and the international activities of world powers. Emphasis is placed upon the changing geographic and economic patterns in world affairs.

**EC 340. Personal Finance (3). Pr., junior standing.**

An informative study of plans for managing personal financial problems involving insurance, housing, household budgeting, investments, personal and bank loans, credit and time buying, etc.

**EH 208. Literature of the Western World (3). Pr., EH 101-2 or 103-4 and EH 107 or 108. All quarters.**

The study of about eight significant literary works of the Western World which provide representative views of man in the Medieval, Renaissance-Reformation, and Eighteenth Century periods.

**EH 301. Creative Writing (3). Fall, Spring.**

A course devoted principally to the writing and criticizing of short stories. The student may be permitted to write poetry, drama, or any other form of imaginative literature.

**EH 302. Creative Writing (3). Fall, Spring.**

A continuation of English 301.

**EH 310. Word Study (3). Fall, Spring.**

A study of the history of English words and their meanings with the object of improving the student's command of his language and illustrating for him some of the patterns in the development of human thought.

**EH 320. An Introduction to Drama (3). Winter.**

Representative tragedies and comedies of Europe from antiquity to the present. Such figures as Sophocles, Moliere, Shakespeare, and Ibsen will be considered.

- EH 350. Shakespeare's Greatest Plays (3).** (Not open to students with credit in EH 451-52.)  
A study of some of Shakespeare's masterpieces.
- EH 355. Masterpieces of World Literature (3).** Pr., EH 101-2.  
Not open to students who have credit in EH 103-4.
- EH 360. Continental Fiction (3).** Winter.  
A study of representative European short stories and novels.
- EH 365. Southern Literature (3).** Spring.
- EH 368. Folk-Lore and the Ballad (3).** Winter.  
A study of the folk-lore and ballad tradition.
- EH 381. The Literature of the Age of Reason (3).** Fall.  
A study of rationalism, its assumptions and its effects, political, social, and scientific as seen in the works of such major eighteenth-century writers as Locke, Johnson, Burke, Voltaire, and Rousseau.
- EH 385. The Impact of Science and Technology Upon Modern Literature (3).** Winter.  
An investigation of a few major 19th and 20th Century writers who reflect in their works the impact of scientific theory and methodology upon traditional, cultural, and philosophical values.
- HE 302. Table Service (3).** Each quarter.  
A study is made of the accessories used for table service in their relation to each other and to the complete service of meals. Principles of flower arrangement are studied and forms of the different food services in the home.
- HE 304. Home and Family Life (3).** Lec. 3. Each quarter.  
A study of the relationship of family members, economic and social problems at all age levels, and development tasks of individuals. Open to men and women.
- HE 306. Personal Grooming (3).** All quarters.  
Good grooming and its contributing factors.
- HE 345. Handicrafts (3).** Lab. 9.  
A study of execution of popular crafts, viz., metal work, leather work, ceramics, weaving, rug hooking, fabric decoration, and camp craft.
- HE 353. Community and Family Health (3).** Lec. 2, Lab. 2. Fall, Spring.  
A study is made of the health facilities available to the home and community. Field trips are included.
- HE 355. Consumer Textiles (3).** Fall, Winter.  
A study of textile fabrics, finishes and trade practice with special emphasis on consumer problems.
- HE 372. Nutrition and Health (3).**  
A study and application of the fundamentals of human nutrition. Food requirements of different age levels and selection of food at different cost levels are considered. Open to all students except Nutrition or Nursing Science majors.
- HF 225. Flower Arranging (3).** Lec. 2, Lab. 2. Fall.  
The principles and practices of flower arranging in the home.
- HY 204. History of the Modern World (3).** (Credit in HY 208, 312, and 313 excludes credit for this course.)  
A brief survey of the major periods of modern history and the factors contributing to the Modern World Civilization. (Primarily for students in Engineering curricula.)
- HY 314. American Colonial History (3).** Pr., junior standing.  
A survey of the political, economic, and social history of the colonies from their founding through the American Revolution.
- HY 315. International Organization (3).** Pr., junior standing.  
This course traces the evolution of international organization from the beginning through the United Nations.
- HY 322. The United States in World Affairs (3).** Pr., junior standing.  
A brief survey of the influence which the United States has exerted in international affairs.
- HY 371. History of the West (3).** Pr., junior standing.  
A brief history of the development of the West and of its influence on American History.
- IM 312. Machine Tabulation (3).** Pr., junior standing.  
Operation and maintenance of tabulating machines.
- MS Advanced Military Science (3).** Lec. 4, Drill 2.  
For students selected.
- MU 371. Introduction to Music (3).** (May not be taken for credit by music majors or minors.)  
An introductory course in the understanding of music including an explanation of basic terms, notations, rhythm, tonal system, vocal and piano score reading.

- MU 372. Music in the Western Civilization (3).** (May not be taken for credit by music majors or minors.)  
Music as related to the philosophical, economical and social growth of our culture from the Roman Empire to the 20th Century.
- MU 373. Appreciation of Music (3).** (May not be taken for credit by music majors or minors.)  
Outstanding composers and compositions. No previous music training required, an orientation in the art of listening.
- MU 374. Masterpieces of Music (3).** (May not be taken for credit by music majors or minors.)  
A study of the representative musical works of each great period of musical history. No previous music training required.
- MU 375. History of Jazz (3).** (May not be taken for credit by music majors or minors.)  
A study of the origin, development and styles of jazz music; people important in the development of American jazz music.
- MU 376. Music for Ballet and Theatre (3).** (May not be taken for credit by music majors or minors.)  
A survey of outstanding musical scores in the field of ballet and the theatre with special emphasis on the modern American musical theatre.
- MU 377. Music Arranging (3).** By permission.  
A project course in arranging various combinations from quartet to symphonic band, and arranging for solo and choral groups.
- NS. Advanced Naval Science (3). Lec. 4, Drill 2.**  
For students selected.
- PA 301. Introduction to Philosophy (3).**  
An introductory survey of the great philosophical systems which underlie and support western civilization. (Credit for this course excludes credit for PA 304.)
- PA 302. Introduction to Ethics (3).**  
An introduction to the general principles of morality as applied to human conduct. (Credit for this course excludes credit for PA 305.)
- PA 308. Introduction to Logic (3).** (Not open to students with credit in PA 307.)  
Designed to acquaint the student with the principles of logical thinking with emphasis upon contemporary scientific procedures.
- PG 310. Reading Improvement (3). Lec. 1, Lab. 4.** (Not open to students with credit in PG 101.)  
Staff  
A thorough diagnosis of each individual student's present degree of efficiency in the reading process; to design an individual program of improvement for each student.
- PG 311. The Behavior of Man (3).** (Not available to students with credit in PG 211. May be used as a prerequisite for PG 325, PG 330, PG 345.)  
The humanistic aspects of general psychology emphasizing theory and principles of the science of the behavior of man. Includes topics such as: individual differences, motivation, world of form and space, personality in a social environment, and the assessment of man.
- PS 217. Astronomy (3).**  
A brief course in descriptive astronomy, accompanied by occasional observations of the heavenly bodies with a three-inch refracting telescope.
- PY 310. Public Health (3). Pr., junior standing.**  
A non-technical survey of the common communicable diseases including the causative agent, mode of transmission and symptoms. Hygienic, sanitation and immunization control measures are discussed along with the roles of Federal and State health agencies. (Not open to students in pharmacy.)
- RE 301. Religion and Modern Thought (3).**  
A course dealing with the relation between the philosophical foundations of Christianity and modern thought in other fields.
- RE 305. Comparative Religions (3).**  
A study of the principal religions of the world, including readings in the history and literature of the peoples whose religions are discussed.
- RE 306. Studies in the Gospels (3).**  
A study of the characteristics of the Gospels and the harmony among them.
- RE 307. History of the Christian Church (3).**  
A history of the Christian Church from the close of the New Testament period to the present time with chief emphasis upon the development in Western Europe and in the United States.

**RE 308. The Epistles of Paul (3).**

A study of the Epistles of Paul in the New Testament; their dates, backgrounds and arguments; the major emphasis of Paul's thought; particular studies of portions of Thessalonians, I Corinthians, and Romans to demonstrate typical Pauline themes.

**RE 309. The Prophets of Israel (3).**

A history of the Hebrew religion as the background of Christianity. Selected figures of the Old Testament are studied, each seen in his own day seeking to interpret his times in the light of the eternal messages he was called to deliver.

**SP 253. Group Leadership (3).**

Smith

This course considers the nature and functions of group leadership; the role of democratic leadership in organizing and conducting a group meeting to reach the aims of that group. Students gain leadership experience in class activities designed to help them learn and perfect democratic leadership techniques.

**SP 305. Public Speaking (3). (Credit in this course excludes credit for SP 231.)**

The student studies the various methods of preparing speeches and prepares and gives several speeches. Emphasis is on the speech to inform and to convince.

**SP 316. Parliamentary Procedure (3).**

Designed to aid the individual who may lead or participate in discussions or organizations where orderly procedure is needed. Theory and practice both employed.

**SP 334. Great American Speeches (3). All quarters.**

Smith

A critical study and comparison of representative outstanding American speeches; the issues with which they were identified; their relation to the social scene.

**ST 113. Personal Typewriting (3). Lab. 6. (Not open to those with credit in ST 111 or who have had one high school unit in typing.)**

Introductory course designed for students who wish to learn typewriting for personal use. Emphasis on touch control of keyboard, centering, appropriate styles for letters, and the preparation of reports. More time spent on the application of fundamentals than on speed.

**SY 205. Preparation for Marriage (3).**

Bliss

Basic factors in dating, courtship, mating selection, and engagement in preparation for marriage and family living.

**SY 307. The Court and Penal Administration (3).**

Shields

An analysis of the experience of the lawbreaker from arrest through the court and prison to the eventual return to society. Particular attention is paid to correction. (To be offered in alternate years.)

**SY 311. Technology and Social Change (3). Pr., junior standing.**

Franklin, Bliss, Hartwig

The relationship between technological development and changes in modern society. Special emphasis is placed upon the human relations aspects of modern science. Designed primarily to meet social science needs of students in the fields of engineering, agriculture, education, and the physical sciences.

**SY 312. Marriage Adjustments (3). Pr., junior standing.**

Sanders

A survey of emotional, social and biological factors in the family setting with emphasis upon adjustments of marriage and parenthood.

**ZY 204. Insects (3).**

An introduction to the study of life processes, occurrence, and importance of insects. (Credit not allowed to students who have credit in a more advanced course in entomology.)

**ZY 205. Wildlife Conservation (3). Winter, Summer.**

Pearson

A study of the conservation and natural history of important wildlife animals, especially Alabama fish, amphibians, reptiles, birds, and mammals. Some field trips will be required, as substitute for part of the scheduled lectures.

**ZY 206. Conservation in the United States (3). Winter, Spring, Summer.**

Good

A study of the basic facts essential to an understanding of current problems pertaining to the conservation of our rapidly depleting natural resources such as soil, water, minerals, forest, and wildlife. Especially planned for elementary and high school teachers.

**ZY 207. Birds (3).**

Good

A consideration of birds in relation to agriculture and game management, recognition of various species as to flight, color markings, songs, and feeding habits.

**ZY 210. Fish Culture (3). Winter.**

Introduction to the construction and management of ponds, and the principles underlying fish production; also fishing methods, bait production, and the identification of the more common sport fish.

## Aeronautical Engineering (AE)

*Professors Pitts, Djordjevic, Hamner, and Martin*

*Associate Professor Sherling*

*Assistant Professors Nichols, Robinson, and Williams*

201. **Elementary Aeronautics (5).**  
Introduction to aviation and the basic principles of flight. This course is open to students in all divisions of the college who desire a general and practical knowledge of aviation.
301. **Basic Aerodynamics (5).** Pr., ME 307, ME 301 or ME 310, and MH 361.  
Fundamental study of the atmosphere, thermo and fluid dynamics of air; lift, drag, propeller theory, and aircraft performance.
303. **Air Navigation I (5).** Pr., MH 112.  
Construction of maps and charts; dead reckoning and pilotage; solution, application and practice of navigation problems.
304. **Meteorology (5).** Lec. 4, Lab. 3. Pr., sophomore standing.  
Weather elements as related to operation of aircraft, computation of data; preparation of weather maps.
306. **Private Pilot Training—Flight (3).** Lec. 1, Lab. 6.  
Dual and solo flight instruction as required for the FAA Private Pilot Certificate. Previous flight experience may be substituted for a part of the above. See page 84 for fees.
307. **Air Navigation II (5).** Pr., AE 303.  
Use of navigation instruments and radio aids; celestial navigation; planning of long range flights; practice of problems.
308. **Aircraft Structures I (5).** Pr., ME 306.  
Shear flow distribution in thin-walled box beams and curved webs, unsymmetrical bending, tapered beams, and cutouts.
309. **Aerodynamics Laboratory I (1).** Lab. (3). Corequisite, AE 301.  
Basic aerodynamic investigations and written reports, wind tunnel calibration, basic wind tunnel tests and interpretation of test results.
401. **Aeronautical Problems I (1).** Lab. 3. Pr., senior standing.  
Investigation of current aeronautical problems; preparation and presentation of technical papers and reports.
402. **Aeronautical Problems II (1).** Lab. 3. Pr., AE 401.  
Continuation of AE 401.
403. **Stability and Control (5).** Pr., AE 404.  
Aircraft performance, stability, and control.
404. **High Speed Aerodynamics (5).** Pr., AE 413.  
Fundamental principles of compressible flow, including subsonic, transonic, supersonic and hypersonic aerodynamics, high speed wind tunnels and laboratory techniques.
406. **Commercial Pilot Training—Flight (3).** Lab. 9.  
Dual and solo flight instruction as required for the FAA Commercial Pilot Certificate. Previous flight experience may be substituted for a part of the above. See page 84 for fees.
407. **Aircraft Powerplants (5).** Pr., junior standing.  
Engine nomenclature and types, cycles of operation, lubrication, fuels, carburetion, ignition and starting systems, engine-propeller performance, introduction to jet propulsion.
408. **Aerodynamics Laboratory II (1).** Lab. 3. Corequisite, AE 403.  
Experimental determination of aircraft stability derivatives, including effect of aircraft configuration changes.
409. **Aircraft Structures II (5).** Pr., AE 308.  
Compression members, buckling of flat and curved plates, shear and combined loads, deflection, strain energy, and redundancy.
411. **Airplane Design (5).** Lec. 3, Lab. 6. Pr., AE 409.  
Analysis of aerodynamic loadings; structural design of aerodynamic shapes; preparation of a report containing the load and structural analysis of a suitable component.
412. **Airplane Structures Laboratory (2).** Lab. 6. Corequisite, AE 409.  
The use of electrical and optical strain gauges; experiments in torsional rigidity, column stability, and buckling of thin sheets; combined loading and stress distribution in monocoque structures; techniques of experimental stress analysis.
413. **Theoretical Aerodynamics (5).** Pr., AE 301, MH 403; Corequisite, MH 404.  
Fundamental practices of aerodynamics, potential flow theory, and dynamics of viscous fluids. Correlation of potential flow theory with experimental results.
415. **Rocket and Jet Propulsion (5).** Pr., ME 301 or ME 310, and AE 301 or ME 313.  
Thermodynamic cycle of rocket and jet engines, air compressors, and gas turbines. Flow of gases through ducts and nozzles.



416. **Airport Management (5). Pr., junior standing.**  
Principles of management; financing the airport; sources of incomes; establishment of rates for services rendered; problems of equipment and airport maintenance; accounting procedures; legal responsibilities; merchandizing.
417. **Airline Operation (5). Pr., junior standing.**  
History of airlines; financial structure and sources of capital of airlines; sales, reservations and space control; dispatching and passenger care; determination of tariffs; personnel relations; research; public relations.
418. **Air Transportation (5). Pr., junior standing.**  
Historical development and present status of air transportation facilities; regulation, state and federal; legal characteristics of air transportation industry; problems and services of commercial air transportation.
419. **Air Traffic Control (5). Lec. 4, Lab. 3. Pr., junior standing and AE 307.**  
A study of all facilities used in controlling air traffic with special emphasis on control center and control tower operation.
420. **Civil Air Regulations (5). Pr., junior standing.**  
A study of all regulations concerning competency of pilots, airworthiness of aircraft, control of air traffic, and the elimination of undesirable flying practices.
423. **Flight Instructor Training (3). Lec. 1, Lab. 6. Pr., a valid Commercial Pilot Certificate.**  
Instruction in the theory, methods and technique of flight training. Sufficient ground and flight instruction is given to qualify for the FAA Flight Instructor Rating. See page 84 for fees.
424. **Instrument Flying (3). Lab. 9. Pr., a valid Private or Commercial Pilot Certificate.**  
Ground and flight instruction in the theory and practice of instrument flying. See page 84 for fees.
425. **Aircraft Components (5). Pr., junior standing.**  
Design, installation, use, and function of hydraulic, mechanical, and electrical systems and equipment of aircraft.
427. **Multi-Engine Training (3). Lab. 9. Pr., a valid Private or Commercial Pilot Certificate.**  
Instruction in the methods and techniques of multi-engine aircraft pilotage. Sufficient ground and flight instruction is given to qualify for the FFA pilot rating of Multi-Engine—Land. See page 84 for fees.
428. **Space Propulsion Systems (5). Pr., AE 415.**  
Introduction to reaction engines for use in outer space vehicles. Environment of outer space, power requirements for space missions, introduction to relativistic mechanics, nuclear power systems, particle generators, magnetohydrodynamics, plasma accelerators and photonic engines.
429. **Aircraft Vibration and Flutter (5). Pr., MH 361, ME 307, and AE 301.**  
Lagrangean equation of motion, linear and multiple degree-of-freedom systems, coupled and uncoupled beam vibration, flutter theory.
430. **Rotary Wing Aircraft (5). Pr., AE 301.**  
Rotary wing flight characteristics and basic aerodynamics including stability, control vibration and performance.
431. **Astronautics (5). Pr., AE 301 and MH 404.**  
Trajectory analysis, including applications of digital and analog computers, ballistic missile range parameters and deviation coefficients; satellite orbits and rocket interplanetary trajectories.

### Agricultural Economics (AS)

*Professors Lanham, Blackstone, Danner, White, and Yeager*

*Associate Professors Chastain, Kern, and Morrill*

*Assistant Professor Partenheimer*

Agricultural Economics as a specialized field has increased in importance as commercial aspects of agriculture have increased. As a supporting field to other subject-matter areas, it has increased in importance as economic, social, and political factors have increased in all of agriculture.

Agricultural Economics is concerned with the business aspects of agriculture—from the acquisition, organization, and management of farms to the operation of businesses concerned with the processing and distribution of farm products—and with all businesses that service the needs of agriculture. Thus, Agricultural Economics is

concerned with the economics of producing, processing, and marketing farm-produced products, with prices paid for these products, and with prices paid for goods and services used by agricultural firms. It deals not only with the individual farm, but also with private and public agencies affecting agriculture. This field of study embraces subject-matter areas including farm organization and management, economics of production, agricultural marketing, farmers' cooperatives, rural business management, agricultural prices, agricultural credit and financing, public policy, land problems and policies, and other related areas.

101. **Agricultural Orientation (0).** Lec. 1. All quarters. (Required of all students in School of Agriculture).
202. **Agricultural Economics (5).** All quarters. Pr., sophomore standing.  
Principles of economics as applied to agriculture. Agriculture in the national and state economy. An orientation in Agricultural Economics dealing especially with economic principles involved in changes and trends in farm-related production, marketing, prices, consumption, taxation, credit, finance, public policies, tenure, etc., and with utilization of land, labor, and capital.
301. **Agricultural Marketing (5).** All quarters. Pr., AS 202 or EC 201.  
Principles and problems involved in marketing farm products. Analysis of marketing functions, services, and costs; reducing costs and improving marketing efficiency. Marketing methods and distribution channels of major farm commodities. Market institutions and operation.
302. **Farm Records (3).** Fall, Spring. Pr., AS 202 or EC 201.  
Farm records and accounts and their uses. Kinds and system of records and accounts adapted to use on Alabama farms. Using farm records to aid in the successful and profitable operation of farm businesses; in the integration of farm and home development; to complement necessary records for income and Social Security tax purposes; and as a basis for analyzing and planning farm businesses.
401. **Farm Management (5).** All quarters. Pr., AS 202 or EC 201 and junior standing.  
Principles and problems involved in acquiring, organizing, and operating a successful farm business. Formation and integration of family and farm business goals. Development of managerial skill for farming, farm and home development work, and professional farm management work.
403. **Agricultural Prices (3).** Winter, Summer. Pr., AS 202 or EC 201 and junior standing.  
Principles and factors involved in the pricing process with special reference to agricultural products and markets. Functions of prices and principles of supply and demand in price determination. Sources of farm price data and methods of price analysis. Policy implications of economic principles as applied to farm price policy programs.
404. **Cooperation in Agriculture (3).** Summer. Pr., AS 202 or EC 201 and junior standing.  
Principles and problems of organizing and operating farmers' cooperative buying and selling associations. History, importance, and types of cooperative, non-profit, and mutual associations. Development of cooperative action, collective bargaining, and cooperative organization. Analysis of cooperatives in the economy and comparisons with other forms of business organization.
405. **Agricultural Policy (3).** Fall, Spring, Summer. Pr., AS 202 or EC 201 and junior standing.  
Concepts, objectives and operation of public policies affecting agriculture. Development of agricultural policies in the United States. Alternative methods of dealing with farm problems at national, state, and local levels, and analyses of interrelationships with other public policy programs. Evaluation of consequences for farmers, consumers, and taxpayers. Emphasis is on current agricultural policies and proposals.
408. **Agricultural Financing (3).** Winter. Pr., AS 202 or EC 201 and junior standing.  
Economic problems and policies in financing agriculture. Capital requirements and credit needs; sources, availability, and costs of capital and credit; principles of lending, borrowing, and investment; voluntary and involuntary capital rationing; institutional developments for improving allocation of capital and credit. Emphasis is on both public and private credit institutions and on financing problems and policies in Alabama agriculture.
409. **Farm Appraisal (3).** Winter. Pr., AS 202 or EC 201; AY 304, 305, or 307; and junior standing.  
The theory of land values; techniques of farm land and building appraisals for different purposes; relationships of land use, soils, crops, forestry management, buildings, land titles, farm prices, taxes, and interest rates to land values; actual appraisals of selected farms; evaluation of appraisal methods and forms currently in use.

410. **Agricultural Business Management (3).** Fall, Spring. Pr., AS 202 or EC 201; and junior standing.  
Principles and problems involved in acquiring, organizing, and operating successful agricultural businesses; capital requirements for selected agricultural businesses, factors affecting location and growth, and measures of technical and economic efficiency in organization and operation; practices involved in buying, pricing, and merchandizing; management problems and policies in financing, personnel, and public relations.
441. **The History and Philosophy of Extension (3).** Lec. 4. Pr., junior standing.  
Designed to provide a background, understanding, and appreciation of the Cooperative Extension Service, its objectives, scope, relationships, and functions as an educational institution. This course is intended to meet the needs of students preparing for work in Agricultural and Home Economics Extension as well as those currently so engaged. (Credit in HE 401 excludes credit in this course.)

## GRADUATE COURSES

601. **Advanced Farm Management (5).** Fall, Spring. Pr., graduate standing or consent of instructor.  
Advanced theory and application of farm management principles and other economic concepts to agriculture. Emphasis is on successful and profitable organization, operation, and management of various types of farms. Optimum utilization of available resources on individual farms.
602. **Advanced Agricultural Prices (5).** Winter, Summer. Pr., EC 345 and graduate standing or consent of instructor.  
Methods of price analysis, separation of fluctuations from price trends, measurement of changes in supply and demand of farm products. Factors affecting prices, price trends, price cycles, and other price structures. Interrelated demands, elasticity concepts, appraisal of recent supply and demand studies. Emphasis is on agricultural products.
603. **Land Economics (5).** Fall, Spring. Pr., graduate standing or consent of instructor.  
Principal economic and institutional factors affecting man in his use of land. Supply, demand, and future requirements for land. Property rights, land planning, zoning, and other social controls affecting land utilization. Land appraisal and valuation. Successful enterprise location. Rural and urban development, use, and conservation of land resources.
604. **Advanced Cooperative Marketing (5).** Winter, Summer. Pr., graduate standing or consent of instructor.  
Cooperative theory and practices. Detailed study of history and development of cooperative movement in the United States and selected foreign countries. Special emphasis on current cooperative marketing status with respect to organization, legal status, and current operating policies and methods used by selected farmers' cooperatives.
605. **Advanced Agricultural Marketing (5).** Fall, Spring. Pr., graduate standing or consent of instructor.  
Theory of marketing with emphasis on its application to methods used and problems faced in marketing Alabama-produced farm products. Objectives in agricultural marketing. Marketing orders and agreements, marketing quotas, and other policy programs affecting marketing. Margins, futures, prices, grades, transportation, storage, advertising, promotion, etc., as they affect farmers' marketing. Marketing survey methods.
608. **Economics of Agricultural Production (5).** Winter, Summer. Pr., EC 451 and graduate standing or consent of instructor.  
Resource allocation and efficiency of production. Production and efficiency in the firm, between firms, and between agriculture and other industries. Influences on agricultural resource allocation and efficiency of risk and uncertainty including price instability, institutional changes, technological advances, imperfect knowledge of production methods, and variations in the human element with emphasis on the role of management.
641. **Extension Methods (3).** Lec. 4. Pr., AS 441 or the equivalent.  
Various methods that may be used in projecting Extension programs are reviewed and related to effective program accomplishment for particular objectives and under different conditions that might prevail.
642. **Extension Programs (3).** Lec. 4. Pr., AS 441 or the equivalent.  
The over-all Extension organization and its relation to the steps and procedures of program development and evaluation. Designed particularly to meet the needs of persons responsible for Extension program development and evaluation at the County level.
651. **Farm Organization and Management (3).** Lec. 4. Pr., graduate standing.  
Formation and integration of family and farm business goals; acquisition, organization, operation and management of successful farm businesses; organization and management of efficient farm units; development of managerial skill for farming, farm and home development work, and other farm management work; field study of organization, operation, and management of selected farms. (Credit for both AS 651 and AS 601 may not be used to meet requirements for the Master's degree.)

652. **Agricultural Prices and Marketing (3).** Lec. 4. Pr., graduate standing. Principles and problems in marketing agricultural products. Objectives in agricultural marketing. Factors involved in the pricing process of agricultural products and markets. Function of prices and principles of supply and demand in price determination. Sources of farm price and market data, and methods of price and market analysis: Implications of current farm price policy and marketing programs. (Credit for both AS 652 and AS 602 may not be used to meet requirements for the Master's degree.)
653. **Public Policy in Agriculture (3).** Lec. 4. Pr., graduate standing. Concepts, objectives, and operation of public policies affecting agriculture; development of agricultural policies in the United States; alternative methods of dealing with farm problems and opportunities at national, state, and local levels, and analysis of interrelationships with other public policy programs; evaluation of consequences for farmers, consumers, and taxpayers; emphasis on current agricultural policies and programs, and on current public policy.
670. **Research Methodology in Agricultural Economics (3).** Winter, Summer. Pr., graduate standing and consent of instructor. Introduction to scientific method and its application in planning and conducting research in Agricultural Economics, nature and limitations of economic analysis; problem selection, project planning, analytical framework, development and use of questionnaires, sampling procedures, control groups, obtaining and analyzing data, and interpreting and presenting results; evaluation of current research procedures in Agricultural Economics and related areas.
680. **Advanced Agricultural Economics Problems.** Credit to be arranged. All quarters.
690. **Seminar. (1-1-1).** Fall, Winter, Spring.
699. **Research and Thesis.** Credit to be arranged. All quarters.

### **Agricultural Education (AD)**

*Professor Montgomery*

*Associate Professors Bottoms, Deloney, Gandy, and Pruett*

Courses in Agricultural Education are concerned chiefly with the preparation of Teachers of Vocational Agriculture and related occupations. However, the Department is in the School of Education and offers courses of general educational interest in visual aids, adult education, vocational education and in school and community relations.

346. **Vocational and Practical Arts Education (3).** Winter. Ways of studying occupational needs and developing and operating local program of vocational and practical arts education.
405. **The School Shop (5).** Lec. 2, Lab. 6. Winter. Bottoms  
Organization and management of the school shop; methods and materials integrated with the study of jobs and problems basic to industrial arts and agricultural education.
406. **Farm and Home Construction and Maintenance (5).** Lec. 2, Lab. 6. Winter, Summer. Bottoms  
Procedure and abilities needed for teaching such jobs and problems as elementary scale drawing and plan reading; farmstead layout, functional requirements of farm houses, shelter, and storage, water system; septic tank and sewage disposal; heating, concrete work, and painting.
407. **Practicum in Farm Electricity (5).** Lec. 2, Lab. 6. Spring, Fall. Bottoms  
Utilization of electricity in the home, school and community enterprises; selection, installation, operation and maintenance of electrical equipment; electrical devices for school and community exhibits. Field assignments will be made.
408. **Teaching Farm Mechanics (5).** Lec. 3, Lab. 4. Summer. Pr., junior standing. Bottoms  
Objectives and methods; equipment and management of farm shop; organization of projects; recent developments in farm mechanics; in-service teaching problems. Students will plan and demonstrate methods of teaching mechanical skills.
446. **Methods in Vocational Agriculture (5).** Fall, Spring. Montgomery, Pruett  
Methods and materials in the teaching of vocational agriculture.
456. **Teaching Aids in Agricultural Education (4).** Lec. 3, Lab. 3. Fall, Spring. Deloney  
The preparation and use of materials in teaching vocational agriculture.
466. **Teaching Out-Of-School Groups (5).** Fall, Spring. Gandy, Pruett  
Conducting young farmer and adult classes and working with community groups in such procedures as community study, promotional and organizational procedures, teaching groups, and on-farm instruction.

485. **Audio-Visual Materials (5).** Lec. 4, Lab. 2. Winter, Summer. Pr., junior standing. **Deloney, Gandy**  
Examination and evaluation of films, filmstrips, slides, exhibits, charts, maps, globes, recordings and recording devices, radio and television programs. Attention is given to the contribution of audio-visual materials to the elementary and secondary school curriculum, to sources of audio-visual materials, and to the operation, care and housing of necessary equipment.
456. **Student Teaching (15).** Pr., senior standing. Fall, Winter. **Staff**  
One quarter of teaching, including all aspects of the work of a teacher of vocational agriculture, such as in-school teaching, young farmer and adult classes, on-farm instruction, and community work, will be required.

#### COURSES PRIMARILY FOR GRADUATE STUDENTS

Special courses are offered to teachers of vocational agriculture in the first term of each summer quarter. Various departments offer 400 and 600 courses that may be selected for the minor upon approval. A list of suggested courses may be obtained from the Department of Agricultural Education. Graduate courses are offered in the regular quarter schedule and on Saturdays.

601. **Social Foundations in Education (5).** Winter, Summer. **Montgomery**  
Man as a social being, his relationships, his social inventions, including community organization and structure, his mores and value patterns, decision making, leadership and fellowship, their significance for educational goals, the curriculum, teaching, learning and leadership. (Selected portions of the course may be offered as a three (3) credit hour course in the Master of Agriculture program.)
602. **Teacher Education in Agriculture (5).** Summer. **Deloney**  
Designed for supervisors, supervising teachers, teacher trainers and other graduate students preparing for work in teacher education in agriculture. State organization for teacher training; duties and responsibilities of those involved; analysis of content of teacher training courses; standards for training schools; in-service training and supervision; and a review of research in the field. Individual problems.
604. **Adult Education (5).** Summer, Winter. **Pruett**  
Analysis of the problems and organizations of adult groups, including the need for adult education; the nature of adult learning; procedures in organizing adult groups; creating and maintaining interest; selection of reading materials; teaching procedures appropriate to adult groups; follow-up and supervision; and fostering particular adult interest groups in rural communities. Selected portions of this course may be offered as a 3-credit hour course at off-campus centers.
605. **Young Farmer Education (5).** Summer. **Gandy**  
An analysis of the problems related to young farmer programs in vocational agriculture with attention to the development of objectives and procedures in the organization and conduct of such instruction.
607. **Seminar in Research in Agricultural Education (4).** Winter, Summer. **Staff**  
Review and criticism of contributions of research in agricultural education; using research in solving current problems; needs for additional research; planning of a comprehensive study or completion of a small study.
609. **Selection, Creation and Use of Audio-Visual Materials (5).** Lec. 3, Lab. 4. Pr., AD 485 or consent of instructor. Winter, Summer. **Deloney, Gandy**  
Selection and use of various materials for specific educational purposes and the production of materials as learning experiences. Skills and techniques used in the production of graphic materials, an analysis of the effectiveness of various materials, and the factors involved in developing a desirable audio-visual aids program for a school system are studied.
651. **Research Studies in Agricultural Education (2-5).** **Staff**  
See description under ED 651.
699. **Thesis Research.** Credit to be arranged. May be taken more than one quarter. **Staff**

#### Agricultural Engineering (AN)

*Professors Kummer and Neal*  
*Research Lecturers Cooper, Gill, Nichols, and Reed*  
*Associate Professors Renoll and Dumas*  
*Assistant Professor Richardson*

Agricultural Engineering is the application of fundamental engineering principles to the solution of the problems of agriculture.

The courses offered by the Agricultural Engineering Department are designed to give the student a conception of modern methods of agricultural production, and the conservation and utilization of land, buildings, and equipment.



Students planning to prepare themselves for agricultural engineering work should consult with members of the agricultural engineering staff.

Work leading to the Master of Science and Doctor of Philosophy degrees for Agricultural Engineers is offered. (See Graduate Bulletin for detailed information.)

- 101-2. Introduction to Agricultural Engineering (0).** Lec. 1. All quarters. Staff  
Orientation and consultation for all freshmen and new students.
- 201. Farm Machinery (5).** Lec. 3, Lab. 6. Fall. Pr., EG 105. Renoll  
Operation, repair and design of tillage, planting, harvesting and processing equipment.
- 301. Drainage and Terracing (5).** Lec. 3, Lab. 6. Fall, Spring, Summer. Neal  
Practical applications of drainage and terracing.
- 302. Farm Buildings and Sanitation (5).** Lec. 3, Lab. 6. Winter. Dumas  
Design, construction, equipment, care and repair of farm buildings. Laboratory periods are devoted largely to building design, concrete work and plumbing.
- 303. Farm Machinery and Equipment (5).** Lec. 3, Lab. 6. Spring, Fall, Summer. Dumas  
Selection, operation, and servicing of mechanical farm equipment used in seedbed preparation, planting, cultivating, and harvesting.
- 304. Rural Electrification (5).** Lec. 3, Lab. 4. Spring. Pr., EE 202. Richardson  
Types and sizes of wiring, equipment and motors suitable for rural lines. Safety precautions.
- 305. Farm Tractors and Engines (5).** Lec. 3, Lab. 4. Winter. Neal  
Selection, operation, and servicing of tractors and engines employing different principles of operation and fuels.
- 306. Farm Building Construction (3).** Lec. 2, Lab. 3. Winter. Dumas  
Materials and methods of farm buildings construction. Selection, repair, and use of farm buildings.
- 307. Farm Wiring and Motors (3).** Lec. 2, Lab. 3. Spring. Richardson  
Fundamentals of residential and farmstead wiring. Selection, operation, and care of farm motors.
- 308. Crop Processing and Materials Handling (3).** Lec. 2, Lab. 3. Fall. Pr., soph. standing. Staff  
The principles and methods of farm crop processing systems including drying, storing, pelleting, mixing and mechanical handling of farm products.
- 401. Farm Power (5).** Lec. 3, Lab. 4. Winter. Pr., ME 310, junior standing. Renoll  
Fundamental principles of operation of gas engines and tractors. Laboratory practice in operating, adjusting, and testing.
- 403. Drainage and Terrace Design (5).** Lec. 4, Lab. 3. Fall. Pr., CE 210, ME 434, junior standing. Neal  
Design of drainage and terrace systems; including size, shape, depth and spacing of open and closed drainage channels.
- 404. Rural Engineering (5).** Lec. 3, Lab. 4. Winter. Pr., ME 310, junior standing. Richardson  
Selection, operation, and servicing of heating, ventilating, refrigerating, and drying systems for farms and rural communities.
- 405. Irrigation Design (5).** Spring. Pr., AN 403 and junior standing. Neal  
The design of flood, furrow, and sprinkler irrigation systems, including the development of water supply sources, pumping and power requirements; the determination of irrigation efficiencies and techniques.
- 406. Dairy Engineering (3).** Lec. 2, Lab. 3. Winter. Richardson  
Selection, operation, and servicing of steam generating and refrigerating plants, indicating and recording instruments, design and arrangements of dairy buildings.
- 407. Farm Machinery Design and Testing (3).** Lec. 2, Lab. 3. Fall, Spring. Pr., AN 201, junior standing. Renoll  
Determination of drawbar and belt horsepower requirements for different machines and equipment using dynamometers and electrical resistance strain gages. Design, construction, and evaluation of component parts of farm machinery including machine efficiency studies.
- 408. Farm Power Design and Testing (3).** Lec. 2, Lab. 3. Winter. Pr., AN 401, junior standing. Renoll  
Testing and calibrating tractors and power units with resistance strain gages, eddy-current dynamometers and electronic measuring devices. Tractor design and construction will be evaluated in terms of thermal efficiency, full consumption, horsepower produced, tractor stability, and traction efficiency.



409. Irrigation Design Lab. (2). Lab. 5. Spring. Pr., AN 403 and co-requisite or prerequisite AN 405. Neal  
Design and calibration of water measuring devices used in irrigation, such as weirs, flumes, orifices and siphons; stream flow measurement; techniques of measuring soil infiltration and water holding capacity. Selection and design of irrigation systems for optimum performance and the application of engineering techniques to land forming.
422. Farm Power and Equipment (5). Summer.  $\frac{1}{2}$  quarter course. Pr., AN 303, junior standing. For Vocational Agriculture Teachers. Staff
424. Farm Electrification (5). Summer.  $\frac{1}{2}$  quarter course. Pr., junior standing. For Vocational Agriculture Teachers. Richardson
426. Farm Irrigation (5). Summer.  $\frac{1}{2}$  quarter course. Pr., junior standing. For Vocational Agriculture Teachers. Neal
432. Engineering in Agriculture I—Agricultural Machinery (3). Lec.-Dem. 4. Pr., graduate standing. Renoll  
The utilization of modern agricultural machinery on the farm with emphasis on safety, management, costs, economic justification, and principles of operation. (Credit for both AN 432 and AN 422 may not be used to meet requirements for the Master's degree.)
434. Engineering in Agriculture II—Agricultural Power (3). Lec.-Dem. 4. Pr., graduate standing. Renoll  
Study of farm tractor and power units used on the farm; includes the basic principles of operation with major interest toward lubrication, costs, operational problems, safety and a comparison of gasoline, Diesel, and LP gas fuels, and units. (Credit for both AN 434 and AN 422 may not be used to meet requirements for the Master's degree.)

## COURSES PRIMARILY FOR GRADUATE STUDENTS

601. Land Conservation and Development (5). Lec. 4, Lab. 3. Pr., AN 403. Neal  
Fundamental problems of hydrology and soil physics applied to the soil erosion process and engineering practices for erosion control. Principles of design for farm drainage and irrigation systems.
602. Advanced Farm Power and Machinery (5). Arrange. Pr., AN 201 and 401. Renoll  
Principles of operation and analysis of design of basic machine elements, hydraulic systems and functional requirements of farm power units, agricultural machinery and materials of construction.
603. Theory of Irrigation and Drainage (5). Pr., AN 405, CE 612 and AY 455. Staff  
Analytical, numerical, and analogue solutions of flow of liquids in porous media problems with special application to drainage and irrigation, unsaturated flow, in situ measurement of soil permeability, principles and applications of centrifugal, mixed flow, and propeller pumps.
604. Agricultural Engineering Problems. (Credit to be arranged). Pr., AN 404. Staff  
Special advanced engineering and design problems in the application of electricity to farm uses, the design and construction of farm structures and processing equipment, the physical properties of soil in relation to tillage implement design and the application of modern testing and measuring techniques to agricultural engineering research.
605. Soil Dynamics (5). Pr., AY 455. Kummer  
Analysis and measurements of soil reactions, as affected by the physical properties of the soil, when subjected to forces imposed by tillage implements and traction devices. Among the soil physical properties considered are shear, cohesion, adhesion, consolidation, plasticity and abrasion.
608. Seminar. Credit to be arranged. All quarters. Staff  
Reviews and discussions of research techniques, current scientific literature and recent developments in agricultural engineering research.
609. Research and Thesis. Credit to be arranged. Kummer  
May be taken more than one quarter.
799. Doctoral Research and Dissertation. Credit to be arranged. Staff

## Agronomy and Soils (AY)

*Professors Rogers, Donnelly, Ensminger, Hood, McCain, Rouse, Scarsbrook, Sturkie and Wear*

*Associate Professors Adams, Hiltbold, Hoveland, Johnson, Patterson*  
*Assistant Professors Dixon, Patrick*

Agronomy is the science of soil management and field crop production. Courses in crops are designed to give a student a thorough knowledge of the principles involved in the economic production of feed, fiber, pasture and other forage crops.

Courses in soils give special attention to the principles of soil formation and classification, and soil fertility and management, including soil conservation and the use of fertilizers.

These courses are designed to prepare students for farming; for employment in related industries such as the fertilizer, seed and soil management services; and for employment by state and federal agencies such as the Extension Service, Experiment Station, Soil Conservation Service, and Farm and Home Administration.

The Department offers graduate work toward the Master of Science and Doctor of Philosophy degrees. An option may be taken in crops or soils. Advanced courses in Agronomy and related fields fulfill the needs of graduate students in the following specialized areas: soil chemistry; soil fertility; soil microbiology; soil physics; soil morphology; genesis and classification; plant breeding; forage, fiber and grain crop production; weed control; crop ecology including agroclimatology; and turf management. Prospective students are referred to the current Bulletin of the Graduate School for details.

**201. Grain Crops (5). Lec. 4, Lab. 2. All quarters.**

This course deals with the fundamental factors involved in the economical production of corn, small grains, grain sorghum, peanuts and soybeans.

**304. General Soils (5). Lec. 4, Lab. 2. Fall, Winter, Spring. Pr., CH 105 and 105L.**

A survey course dealing with the formation, classification, composition, properties, management, fertility, and conservation of soils in relation to the growth of plants.

**305. General Soils (5). Lec. 4, Lab. 2. Winter. Pr., CH 103-104.**

A survey course dealing with the formation, classification, composition and properties of soils and their influence on vegetative growth and development on forest lands. Open only to students in Forestry.

**306. Soil Morphology and Survey (3). Lec. 1, Lab. 4. Spring. Pr., AY 304.**

Specially designed to fit students for employment as soil surveyors in state and federal agencies. To be given only when a sufficient number of students elect it.

**307. General Soils (5). Lec. 4, Lab. 2. Fall, Spring. Pr., CH 101-102 or 103-104.**

Survey of the general field of soils including genesis, classification and fertility. Open only to students in Vocational Agriculture.

**401. Forage Crops (5). Lec. 4, Lab. 2. Fall, Winter, Spring, Summer. Pr., junior standing.**

This course deals with both grass and legume forage crops. The crops are considered from the standpoint of (a) pasture crops, (b) hay and silage crops, (c) soil improving crops.

**402. Soil Fertility (5). Lec. 5. Spring. Pr., AY 304, 305 or 307, and junior standing.**

Lectures, demonstrations and problems designed to illustrate principles of soil fertility as related to fertilizer practices and crop production. An advanced course required of all students majoring in Agronomy and Soils. Either AY 402 or AY 407, but not both, may be used to satisfy the minimum requirement for the Master's degree.

**403. Grazing Systems in Alabama (5). Lec. 3, Lab. 4. Spring. Pr., AY 401, and junior standing.**

A study of the establishment, maintenance, and management of crops used in grazing systems in the various soil and geographic areas of Alabama.

**404. Cotton Production (5). Lec. 5. Fall, Winter. Pr., junior standing.**

Most of the time will be devoted to cotton. A limited amount of time will be devoted to other fiber crops.

**405. Turf and Its Management (3). Lec. 2, Lab. 2. Fall, odd years. Pr., AY 304, BY 306, BY 309, and junior standing.**

A consideration of species of turf crops in relation to latitude, soil type, shading, establishment, fertility, and maintenance.

**406. Commercial Fertilizers (3). Lec. 3. Winter. Pr., AY 304, 305 or 307, or by special permission of instructor; also junior standing.**

A study of raw material reserves; manufacture, and properties of fertilizer materials; properties and formulation of mixtures; relative efficiency of various plant nutrient sources; and related agronomic problems.

**407. Soil Management (5). Lec. 5. Summer. Pr., AY 304, AY 305, or AY 307, and junior standing.**

A study of the physical, chemical and biological properties of soils and their management. An advanced course designed for students in Vocational Agriculture. Either AY 402 or AY 407, but not both, may be used to satisfy the minimum requirement for the Master's degree.

**409. Seed Production (3). Lec. 2, Lab. 2. Spring, odd years. Pr., AY 201, 401 and junior standing.**

A study of methods and factors affecting production, storage, and processing seed.

410. **Methods of Plant Breeding (3).** Lec. 2, Lab. 2. Fall, even years. Pr., ZY 400 and junior standing.  
A general course designed to acquaint students with the principles and methods of plant breeding.
411. **Soil Management (3).** Lec. 4. Pr., AY 304, 305 or 307 and graduate standing.  
A study of the classification, physical properties, moisture, organic matter, and pH of soils, and their management with respect to these properties. (Credit for both AY 411 and AY 402, or AY 407 may not be used to meet requirements for the Master's degree.)
412. **Advanced Forage Crops (3).** Lec. 4. Pr., AY 401 and graduate standing.  
A study of the forage species and mixtures, their establishment, maintenance and management for different soils and systems of grazing. (Credit for both AY 412 and AY 403 may not be used to meet requirements for the Master's degree.)
453. **Geomorphology (5).** Lec. 4, Lab. 2. Winter, even years. Pr., AY 304, 306, and senior standing.  
A study of the structure and physiography of the earth's crust and its relation to soil parent material.
454. **Soil Genesis and Classification (5).** Spring, even years. Pr., AY 453 and senior standing.  
A study of the factors and processes influencing soil formation, and the systems of classification.
455. **Soil Physics (5).** Winter, even years. Pr., AY 304 and junior standing.  
Lecture and demonstrations to illustrate fundamental physical properties of soils.

## GRADUATE COURSES

601. **Agronomy Problems (1-5).** Credit to be arranged.  
Conferences, problems, and assigned reading in soils and crops, including results of agronomic research from the substations and experiment fields.
602. **Plant Biological Chemistry (5).** Fall, odd years. Pr., CH 203 or CH 207.  
Biochemical reactions and factors influencing them. Major emphasis is placed on those reactions concerning plants. This course will be given only when a sufficient number of students want the course. The course is required of graduate students majoring in Agronomy and Soils.
606. **Soil Microbiology (5).** Lec. 3, Lab. 4. Spring, odd years. Pr., AY 402 and VM 420.  
A study of soil microorganisms and their physiological processes related to soil development and plant nutrition. The role of microorganisms affecting the chemical and physical properties of soils will be studied, with emphasis on the cyclical transformations of nitrogen, phosphorus, carbon, and sulfur. (To be given in alternate years.)
608. **Experimental Methods (5).** Fall, even years.  
This course deals with experimentation in the agricultural sciences including experimental techniques, interpretation of research data, use of library references and preparation of publications; and consists of problems, assigned readings, and lectures. Required of all students majoring in Agronomy and Soils. This course will be given only when sufficient students want the course to justify its being taught, but will not be given more frequently than once a year.
613. **Theories and Applications in Agronomic Research (2).**
614. **Plant Science Seminar (1).** Fall, Winter, Spring.  
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization and presentation of material by the students. This is a joint seminar among the departments of Agronomy and Soils, Botany and Plant Pathology and Horticulture. Required of all graduate students in these departments.
615. **Seminar in Genetics (1).** Pr. ZY 400.  
Reports will be presented by students and staff members on current research and the literature in the field of genetics.
616. **Advanced Plant Breeding (5).** Lec. 4, Lab. 2. Winter, even years. Pr., ZY 400.  
Principles, methods, and techniques involved in plant breeding. Laboratory work will consist of studying active plant breeding programs, studying pollination techniques, and making pollinations. A term paper will be required.
617. **Experimental Evolution (3).** Spring, even years. Pr., ZY 400 and BY 616.  
A study of the factors affecting the evolution of species.
618. **Crop Ecology (5).** Winter, even years. Pr., BY 306, 413, and AY 402.  
A study of environmental factors influencing the growing of crop plants.
619. **Theories in Forage Crops Management (5).** Lec. 3, Lab. 4. Winter, odd years. Pr., BY 306, 309, AY 402 and 403.  
The principles involved in successful establishment, maintenance and management of crops used for grazing, hay and silage.

- 620. Philosophy and Interpretation of Experimental Research (3).** Lec. 4. Pr., graduate standing.  
A systematic study of the principles and methods of experimental research; the utility of experimental designs; and the utilization of statistical and graphical aids in the interpretation of data. Mathematical comparisons of the efficiency of designs and calculations of statistical values are not a part of this course.
- 654. Advanced Soil Fertility (5).** Spring, odd years. Pr., CH 206, AY 402 and 606.  
Composition and properties of soils in relation to the nutrition and growth of plants.
- 655. Soil and Plant Analysis (5).** Lec. 2, Lab. 6. Winter, odd years. Pr., CH 206 and AY 402.  
Principles, methods, and techniques of quantitative chemical analysis of soils and plants applicable to soil science.
- 656. Soil Mineralogy (5).** Lec. 4, Lab. 2. Fall, even years.  
A study of the crystal structure and properties of the more important soil and clay minerals combined with identification techniques involving X-ray, differential thermal analysis, electron microscopy and petrographic microscopy.
- 657. Advanced Soil Chemistry (5).** Fall, odd years. Pr., CH 314, AY 655 and 656.  
Physico-chemical properties of soil colloids.
- 658. Advanced Soil Physics (5).** Lec. 2, Lab. 6. Pr., MH 201-202, PS 205-206, and AY 455.  
The physical properties of soils in relation to plant growth. Emphasis is placed on methods of measuring soil physical properties and the interpretation of these measurements in terms of plant growth.
- 699. Research and Thesis.** Credit to be arranged.  
Research and thesis on problems related to crop production, plant breeding, soil fertility and soil chemistry.
- 799. Doctoral Research and Dissertation.** Credit to be arranged.

## Air Science (AF)

### Air Force ROTC Program of Instruction

#### BASIC COURSE

##### First Year (Freshman)

#### Air Science I. Foundations of Air Power and Leadership.

Designed to have the student in the ROTC classroom three hours per week for one quarter. Thirty (30) contact hours of designated University courses being pursued in another department will be required. (See page 112.)

- 101. Foundations of Air Power (1).** Lec. 3, Drill 2.  
Elements and Potentials of Air-Power; Air-Space Vehicles and Principles of Flight; and Professional opportunities in the U.S. Air Force. Leadership Laboratory includes drill field activities of the cadet flight, squadron, group, and wing.
- 102. Leadership Laboratory (1).** Drill 2.  
Drill field activities of the cadet flight, squadron, group, and wing plus a designated University course (see page 112).
- 103. Leadership Laboratory (1).** Drill 2.  
Drill field activities of the cadet flight, squadron, group, and wing plus a designated University course (see page 112).

##### Second Year (Sophomore)

#### Air Science II. Foundations of Air Power. (Pr., All Air Science I courses.)

A year-long survey of the development of aerial warfare with emphasis on principles of war, concepts of employment of forces, and changing weapon systems. Treatment of aerial warfare covers targets, weapon systems, delivering vehicles, bases and operations.

- 201. The Evolution of Aerial Warfare (1).** Lec. 2, Drill 2.  
A survey of the development of aerial warfare with emphasis on principles of war, concepts of employment of forces, and changing weapon systems.  
Leadership Laboratory
- 202. Elements of Aerial Warfare (1).** Lec. 2, Drill 2.  
Treatment of aerial warfare is undertaken to include targets, weapons, delivery vehicles, bases, materiel, and personnel. Leadership Laboratory.
- 203. Employment of Air Force (Operation) and Operation In Space (1).** Lec., Drill 2.  
Treatment of aerial warfare to include combat and peace time operations and problems and possibilities of space operation. Leadership Laboratory.

## ADVANCED COURSE

## Third Year (Junior)

**Air Science III. Air Force Officer Development.**

An introduction of Air Force ROTC cadets to principles of leadership as they apply to Air Force problems and tasks. Involves Air Force leadership doctrine, major socio-psychological principles of leadership, a consideration of the leader-follower relationships in an Air Force environment, and communication theory relevant to leadership. Leadership exercises concentrate on important behavior skills basic to leader performance with provisions for practice and development of basic behavior skills in a realistic problem situation.

**301. Problem Solving (3). Lec. 4, Drill 2.**

Problem solving techniques are taught as applied to Air Force staff and command problems. In addition the military justice system is taught.  
Leadership Laboratory

**302. Communicating and Instructing in the Air Force (3). Lec. 4, Drill 2.**

Knowledge and skills required of a junior staff officer in the Air Force. This includes staff organization and functions, communicating and instructing.  
Leadership Laboratory

**303. Leadership and Management (3). Lec. 4, Drill 2.**

Problems in leadership and management. Application of the principles and theories of problem solving and leadership to simulated and real Air Force problems are treated.  
Leadership Laboratory

## Fourth Year (Senior)

**Air Science IV. Global Relations.**

An intensive study of global relations of special concern to the Air Force officer with emphasis on international relations and geography; weather and navigation; and briefing for commissioned service are also included.

**401. Weather and Navigation (3). Lec. 4, Drill 2.**

An introduction, presenting the weather and navigational aspects of airmanship, such as temperature, pressure, air masses, precipitation, weather charts, and dead reckoning navigation; includes the Military Aspects of World Political Geography dealing with globes and maps in the Air Age World, and the Geography of Climate.

**402. Military Aspects of World Political Geography (3). Lec. 4, Drill 2.**

Concepts of the military aspects of political geography; maps and charts; factors of power; and geographic influences upon political problems with a geopolitical analysis of the strategic areas.

**403. International Relations (3). Lec. 4, Drill 2.**

A study of the major factors underlying international tensions—nationalism, imperialism, and communism; attempts to alleviate these tensions—balance of power concepts, the League of Nations, the United Nations, and regional security organizations; and the rise of the two super-powers—the United States and the U.S.S.R.  
The Air Force Officer. Material to help the cadet make a rapid, effective adjustment to active duty as an officer of the United States Air Force.

**Animal Science (AH)**

*Professors Warren, Anthony, and Salmon*

*Associate Professors Squiers, Turney, Patterson, Tucker, and Wiggins*

*Assistant Professors Farish, Harris, and Price*

*Instructor Gray*

The work in this department deals with principles and practices of breeding, feeding, management, judging and marketing of livestock. The courses are planned to meet the needs of students who expect to become livestock farmers and farm managers, county agents, teachers of vocational agriculture, college teachers, research workers, livestock extension specialists, or employees in related commercial industries. Graduate curricula leading to the M.S. and Ph.D. degrees are offered especially for students who want to prepare for research work or college teaching.

**200. Introductory Animal Husbandry (5). Lec. 4, Lab. 2. All quarters.**

A basic course designed to orient the student and provide some understanding of the scope and importance of the field. The importance of livestock to agriculture and to the nutrition of people. The role of nutrition, breeding, selection and management in livestock production.

**204. Animal Nutrition (5). All quarters. Pr., CH 104.**

Principles of animal nutrition and the nutritional requirements of farm animals.

**301. Livestock Judging (3). Lec. 1, Lab. 4. Winter, Spring. Pr., AH 200.**

Theory and practice in the selection of beef cattle, swine, sheep, and horses.

302. **Feeds and Feeding (3).** Fall, Winter, Spring. Pr., AH 204.  
Principles and practices of balancing and compounding of rations for beef cattle, sheep, and swine.
303. **Livestock Production (5).** Lec. 4, Lab. 2. Pr., AH 204.  
Efficient practices for selection and management of beef cattle, sheep, and swine. For Agricultural Education students and other students whose curricula do not include AH 401 and AH 402. Ten or more hours of credit in AH 401, AH 402, or AH 405 excludes credit for AH 303.
304. **Meats (3).** Lec. 1, Lab. 4. Fall, Spring. Pr., AH 200.  
Study and practice of slaughtering and cutting carcasses of cattle, sheep and hogs. Curing and processing procedures will be considered. Factors affecting slaughtering and cutting yields and costs and the basic principles of quality meat selection and grading will be stressed.
308. **Meats Judging (3).** Lec. 1, Lab. 4. Fall. Pr., AH 304.  
Theory and practice in the selection and grading of carcasses and wholesale cuts of beef, pork, and lamb.
401. **Swine Production (5).** Lec. 4, Lab. 2. All quarters. Pr., AH 200, AH 204, junior standing.  
The practical problems involved in the breeding, feeding, and management of swine for economic production.
402. **Beef Cattle Production (5).** Lec. 4, Lab. 2. Fall, Winter, Spring. Pr., AH 200, AH 204, and junior standing.  
The practical phases of breeding, feeding, and management of beef cattle for economic production.
403. **Animal Breeding (5).** Winter, Spring. Pr., ZY 400 and junior standing.  
The application of genetic principles to the breeding of cattle, sheep, and swine. Studies of different systems of breeding and selection and their related efficiencies for livestock improvement.
404. **Market Classes and Grades of Livestock (3).** Lec. 2, Lab. 2. Fall, Spring. Pr., AH 200.  
Grading, classing, and marketing livestock.
405. **Sheep Production (5).** Lec. 4, Lab. 2. Fall. Pr., AH 200, AH 204, and junior standing.  
Types and breeds of sheep; buildings and equipment; types of sheep raising and flock management; nutritional requirements and feeding; sheep breeding, selection and culling; performance testing; wool grading and marketing; lamb grading and marketing; common diseases and parasites and their control.
406. **Reproduction in Farm Animals (5).** Lec. 4, Lab. 2. Spring. Pr., junior standing.  
Anatomy and physiology of the male and female reproductive tract; hormones governing reproduction; estrus and estrus cycle; ovulation, mating, gestation, parturition; lactation; sperm physiology; collection, storage and dilution of semen; artificial insemination; factors affecting fertility; causes of sterility in males and females, pregnancy tests.
407. **Advanced Livestock Judging (3).** Lec. 1, Lab. 4. Fall. Pr., AH 301 and approval of instructor.  
An advanced course in the selection and grading of livestock.
408. **Applied Animal Nutrition (5).** Pr., AH 302 and senior standing.  
An advanced study of the principles of animal nutrition and their application to the production of farm animals, including the study of physiology of nutrition, metabolism of nutrients and recent nutritional developments.
411. **Undergraduate Seminar (1).** Pr., senior standing.  
Lectures, discussions and literature reviews by staff, students and guest lecturers.
450. **Advanced Animal Nutrition and Livestock Feeding (3).** Lec. 4. Pr., graduate standing.  
Principles of nutrition, nutritional requirements, compounding of rations, role of additives in livestock feeds and study of newer research findings.
451. **Breeding and Genetic Improvement of Farm Animals (3).** Lec. 4. Pr., graduate standing.  
A study of basic genetic principles and their application to the breeding of farm animals. Systems of breeding and selection.

#### GRADUATE COURSES

(Graduate Standing Required)

603. **Nutrition Methods (5).**  
Nutrition methodology including chemical, photometric, biological, and microbiological procedures used in nutrition investigations.



604. **Proteins, Amino Acids and Related Nitrogenous Compounds in Animal Nutrition** (5). Pr., CH 208 or equivalent.  
Studies of the nutritional importance of these substances and their relation to growth, reproduction and health of animals.
605. **Carbohydrates and Fats and Energy Metabolism in Animal Nutrition** (5). Pr., CH 208 or equivalent.  
Studies of the contribution of these factors as cell constituents and as sources of fuel in animal metabolism.
607. **Comparative Animal Nutrition** (5). Pr., AH 408.  
Advanced studies of the comparative nutritional requirements in beef cattle, sheep, swine and laboratory animals.
608. **Advanced Reproduction in Farm Animals** (5). Pr., AH 406, ZY 424.  
Physiology and endocrinology of reproduction.
609. **Advanced Beef Cattle Production** (5).  
Advanced studies relating to the production of beef cattle.
610. **Advanced Swine Production** (5).  
Advanced studies of swine production and its place in Alabama agriculture.
611. **Seminar. Credit to be arranged.**
612. **Genetics of Populations** (5). Pr., AH 403.  
Genetic composition of populations and factors affecting rates of change and conditions of equilibrium.
613. **Vitamins in Animal Nutrition** (5). Lec. 4, Lab. 2. Pr., CH 208.  
Studies of the specific functions of the vitamins, unidentified growth factors and feed additives in animal nutrition.
614. **Minerals in Animal Nutrition** (3). Lec. 2, Lab. 2. Pr., CH 208.  
Studies of the specific functions of the minerals in animal nutrition; mineral metabolism and mineral deficiency diseases.
615. **Nutritional Interrelations** (5). Pr., CH 420.  
Specific metabolic relationships among vitamins, amino acids, fats, carbohydrates and minerals and the effect of nutritional antagonists.
616. **Enzymes and Hormones in Nutrition, Growth and Reproduction** (5). Pr., CH 420, ZY 628.  
The influence of nutrition on concentration of enzymes in animal tissues. Vitamins and proteins as structural entities in enzymes. The interdependence of nutrition and the endocrines, particularly the thyroid, pancreas, pituitary, adrenals, testes and ovaries. The chemistry and function of hormones specifically related to growth and reproduction in the mammalian and avian species.
618. **Current Problems and Practices in Livestock Farming** (5). Summer.  
Intensive studies of new research findings and their application to livestock production on Alabama farms. Primarily for Vocational Agriculture Teachers and County Extension Workers.
619. **Experimental Methods** (5). Pr., Satisfactory courses in statistics.  
Research methods in the animal sciences including experimental techniques, interpretation of research data and preparation of publications.
620. **Nutritional Pathology I** (5). Winter Quarter by arrangement. Pr., VM 418 and satisfactory courses in biochemistry.  
A comprehensive study of gross and microscopic pathology of nutritional diseases of experimental and domestic animals.
621. **Nutritional Pathology II** (5). Spring Quarter by arrangement. Pr., AH 620.  
Evaluation and application of chemical, histochemical and cytochemical methods in localization of enzymes, nucleic acids, amino acids and other cellular constituents in tissues of normal animals and those with nutritional imbalances.
690. **Special Problems** (1-5 hrs. credit—to be arranged). Conferences, problems, assigned reading and reports in one or more of the following major fields: (a) nutrition, (b) animal breeding, (c) physiology of reproduction, and (d) production.
699. **Research and Thesis. Credit to be arranged.**  
Research and thesis may be on technical laboratory problems or on problems directly related to beef cattle, sheep or swine.
799. **Doctoral Research and Dissertation. Credit to be arranged.**

**Architecture (AR)***Head Professor Kelley**Professor Burkhardt**Associate Professors Layman, Prestridge, and Wells**Assistant Professors Alexander, Anderson, Brisson, Jackson\*, Knowles, and Thomasson**Instructors H. Brisson\*, E. Orisini\*, and Nicholas Orsini***101-2-3. Basic Design (6-6-6). Lec. 1-1-1, Lab. 15-15-15.**

Correlated study of the fundamental relationships basic to all design problems—9 hours per week in design laboratory. Study and practice in freehand representation with various media—6 hours per week in the art studio. One hour per week lecture and discussion. Required for all first year students in AR and ID.

**201-2-3. Architectural Design (4-4-4). Lec. 1-1-1, Lab. 9-9-9. Pr., AR 103.**

Principles of spatial composition and structural organization; approaches to architectural design by the analysis of design determinants—9 hours per week in design laboratory. One hour per week of discussions and laboratory criticism.

**206-7. Interior Design (4-4). Lec. 1-1, Lab. 9-9. Pr., AR 201.**

Principles of spatial composition and structural organization; approaches to a design by the analysis of design determinants; solution of simple design projects, furnishings and color. One hour per week of discussions and laboratory criticisms.

**215-16. Elements of Interior Design (2-2). Lec. 2-2. Pr., AR 103.**

An introductory survey of the profession of interior design including professional procedures, relationships, ethics, correlation with architecture and other arts. Lectures, readings, discussions and research.

**233. Materials and Construction (5). Lec. 5.**

Physical and structural properties of natural and synthetic building materials; analysis of their limitations and combinations in the construction of buildings; systems of construction. Lectures, readings, research and reports.

**271-2-3. Descriptive Drawing (2-2-2). Lab. 6-6-6. Pr., AR 103.**

Fundamentals of drawing structures, developing basic abilities which may be applied in principle to the drawing problems that an architectural designer may face. Various media, discussions, exercises.

**301-2-3. Architectural Design (5-5-5). Lab. 15-15-15. Pr., AR 203. Coreq., BT 220.**

Admission only upon recommendation of the Committee on Design.

Analysis and solution of buildings of moderate complexity, with emphasis on domestic, civic, and recreational problems; increased attention to construction and finish details. Research, discussions, drawings, models.

**305-6-7. Interior Design (5-5-5). Lab. 15-15-15. Pr., AR 207.**

Analysis and solution of interiors of moderate complexity, with emphasis on domestic and commercial problems. Research, discussion, drawings, models.

**360. Appreciation of Architecture (3). General elective. (Not open to AR and ID students.)**

A survey of architectural development with particular attention to American and contemporary examples. Illustrated lectures, readings.

**361-2-3. History and Theory of Architecture (3-3-3). Pr., AR 203, BT 223.**

An analysis of cultural institutions of the past and the study of the principles of planning and architectural composition, town planning, and landscape architecture as resulting from these forces and structural knowledge of the time. Study of the Ancient, Medieval, and Oriental cultures. Illustrated lectures, readings, drawings, and reports.

**366. Period Interiors (2). Lec. 2.**

A survey of the development of interior spaces, furniture, fabrics, and accessories from the Renaissance to 1900. Illustrated lectures, readings, reports.

**367. Contemporary Interiors (2). Lec. 2. Pr., AR 366.**

A survey of the fundamental aspects of interior design, spatial order and characteristics, furniture and fabric design, from 1900 to date. Illustrated lectures, readings, reports.

**370. Spaces for Living (3). General elective. Pr., junior standing. (Not open to AR and ID students.)**

A survey of contemporary concepts of design, spatial organization, materials, furnishings, and gardens in relation to all major types of residential architecture. Illustrated lectures, readings, reports.

**374. Planning (2). Lab. 6. Coreq., EC 206 or SY 311.**

Introduction to principles of city and regional planning. Consideration of the influences which shape urban development.

\* Temporary.

375. **Planning (5). Lec. 3, Lab. 6. Pr., AR 374.**  
Lectures on the historical development of planning and urban design. Research in regional and local effects of planning. Practical problems in urban design, group design, systems of communication, urban patterns and controls.
390. **Field Project (2). Required of students in Interior Design for admission to AR 406.**  
Summer experience (2 months minimum) with an interior design practitioner or commercial interior design department. The project is subject to approval by the Committee on Professional Practice.
- 401-2-3. **Architectural Design (5-5-5). Lab. 15-15-15. Pr., BT 223, 312, AR 303. Coreq., BT 313.**  
Analysis and solution of buildings of advanced complexity, with emphasis on school, social, transportation, hospital, commemorative, and decorative types. Increased attention to the relation between space organization and the structural system. Research, discussions, drawings, models.
405. **Interior Design (5). Lab. 15. Pr., AR 307.**  
Analysis and solution of interiors of advanced complexity, with emphasis on institutional and public problems. Research, discussions, drawings, models.
406. **Interior Design (5). Lab. 15. Pr., AR 405. Coreq., AR 342.**  
Analysis and solution of interior problems for first half of quarter; second half to be devoted to preparation of program and preliminary scheme for Terminal Problem subject to approval of Committee on Design. Research, discussions, drawings, models.
407. **Interior Design (5). Lab. 15. Pr., AD 406. Coreq., AR 432, AR 435.**  
The development of a major interior design under direction of the Committee on Design, with oral presentation for jury consideration. Drawings, models, details and written explanation.
423. **Professional Practice (2). Lab. 6.**  
Emphasis on site engineering, mathematics of surveying in relation to interpretation of geographic and physical features; grading, drainage, and codes. Lectures, readings, reports.
432. **Materials and Finishes (2). Lab. 6. Coreq., AR 407.**  
Detailed determination of materials, finishes, costs as related to terminal problems accomplished under AR 407.
435. **Methods of Interior Design (5). Lab. 15. Coreq., AR 407.**  
Detailed design of furniture and/or furnishings included in terminal problem (AR 407), together with fabrication of at least one item of furniture or furnishings at scale to be determined by staff.
- 441-42. **Professional Practice (2-2). Lab. 6-6.**  
Office procedure and methods for interior designers; the technique and execution of working drawings for buildings, cabinetry and interior details; specifications. Discussions, drawings, inspections, reports.
- 461-2-3. **History and Theory of Architecture IV-V-VI (3-3-3). Pr., AR 363.**  
Continuation of AR 363. Study of Renaissance, Baroque, Early American, and Modern cultures. Illustrated lectures, readings, drawings, and reports.
471. **Town Planning (5). Pr., 4th year standing.**  
Land uses; use standards and controls; communication systems; growth, health, and decay of urban communities; remedial actions. Illustrated lectures, readings, reports.
490. **Field Project (2). For students of Architecture.**  
Study of the correlation and interpretation of working drawings and specifications on an architectural project under construction. Field work and reports will be approved by the Committee on Professional Practice. (To be completed as prerequisite to AR 502.)
501. **Architectural Design (5). Lab. 15. Pr., AR 403. Admission only upon recommendation of the Committee on Design.**  
Analysis and design of buildings of advanced complexity, with emphasis on multi-story commercial and institutional projects; group planning and advanced site study. Research, reports, discussions, drawings, models. A scheme for a building executed as a minor problem in this course will be fully developed in AR 502.
502. **Architectural Design (5). Lab. 15. Pr., AR 490, AR 501, AR 521, BT 541, BT 413. Coreq., AR 522 and AR 532.**  
The coordinated design of a major architectural project with full presentation. This course is designed to be correlated with work in AR 522 and AR 532, under the direction of the Committee on Design.
503. **Architectural Design (7). Lab. 21. Pr., AR 502, AR 512.**  
The development of a major design problem under direction of the Committee on Design. Drawings, models, details, and written explanations, oral presentation for jury consideration.

512. **Design Research (2).** Lab. 6. Pr., AR 490, AR 501. Coreq., AR 502.  
The selection and comprehensive programming of a terminal problem in architecture to be executed in AR 503.
- 521-2. **Professional Practice (5-5).** Lec. 3, Lab. 6. Coreq., to AR 522; AR 502, AR 532.  
Study of procedures in architectural practice; construction methods, estimation of quantities and costs; preparation of specifications and working drawings. Office organization; legal requirements; professional organizations and relations; civic responsibility.
532. **Materials and Finishes (2).** Lab. 6. Coreq., AR 502, AR 522.  
Analysis and assembly of materials and finishes used in the building designed in AR 502. Lecture, research, and reports.
558. **Seminar in Contemporary Concepts (5).** Pr., AR 463.  
A study of current achievements in world architecture with emphasis on broad movements and emerging patterns. Research, directed reading, reports, and discussion.
559. **Seminar in Historical Problems (5).** Pr., AR 463.  
Open to students who have shown ability, initiative, and industry in developing individual projects. Research, reports, and drawings under supervision on approved topics.
560. **The Architect and Society (2).** Pr., 4th year standing.  
A study of the social, economic, and political factors which have influenced the contemporary expression of architectural design and practice. Analysis of great works and philosophies which led the way to new approaches in design. Appreciation of esthetics and function as applied to form. Lectures, outside reading and reports.
561. **Seminar in Urban Design (2).** Pr., 4th year standing.  
Directed reading and discussion of contemporary developments in urban planning concepts and solutions. Reports and drawings.
571. **Honors Program.** Credit to be arranged up to 5 hrs. Pr., 4th year standing.  
Admission only by the Committee on Honors Program. Development of an area of concentration through independent study. Scope of work and its evaluation to be determined by the Committee. May be taken more than one quarter.

## Art (AT)

*Head Professor Applebee*

*Professor Sykes\*\**

*Associate Professors Abney, Kettunen, Schaer, and Williams*

*Assistant Professor Lapsley*

*Instructors Cheney, Gibson, Kinnaird, McIvor, Simmons\*, Smith\**

*Graduate Assistant Patterson*

101. **Freehand Drawing (5).** Lab. 15. Elective for entire college.  
Basic principles of graphic representation; development of sensitivity in seeing essentials, and of the power to clarify and reorganize line, space, and form; the use of pencil, pen and ink, and charcoal.
103. **Creative Drawing (5).** Lec. 3, Lab. 6. Pr., AT 101.  
Problems stressing expressive drawing and organization.
104. **Basic Figure Drawing (5).** Lab. 15. Pr., AT 101.  
Drawing in various media from the model to develop feeling for form and movement.
112. **Perspective (5).** Lec. 2, Lab. 8.  
Theory of linear perspective; plan and measuring-point method; shadows in natural and artificial light; reflections. Problems.
141. **Art Structure (5).** Lec. 2, Lab. 8. Elective for entire college.  
Art understanding through experimentation, readings, and discussions combining theory with applications.
201. **Life Drawing I (5).** Lec. 2, Lab. 8. Pr., AT 104.  
Drawing and construction of the human figure from the model.
216. **Materials and Processes (5).** Lec. 5. Pr., sophomore standing.  
The properties and use of materials in manufacture and a study of the various machine and tool processes used by industry.
217. **Delineation (5).** Lab. 15. Pr., AT 223.  
The development of facility and understanding in the drawing of three dimensional forms. Emphasis on the function and the techniques of presentation.

\* Temporary.

\*\* On leave.

221. **Modeling (5). Lab. 15.**  
Creative expression in three dimensions; abstractions, portraits, figure pieces in clay and other media.
223. **Water Color (5). Lab. 15. Pr., AT 101 or 141.**  
Study of the medium and of picture structure; exercises in still life, figure, and landscape painting.
241. **General Design (5). Lec. 1, Lab. 12. Pr., AT 101 and 141.**  
Practice in the application of the principles of design; problems in blockprinting, stenciling, batik, etc.
271. **Introduction to Industrial Design (5). Lec. 2, Lab. 8. Pr., AT 101 and 141.**  
Survey of the field of Industrial Design. Use of drafting instruments. Lectures, readings, drawings. Basic layout problems.
- 302-3-4. **Life Drawing II-III-IV (5-5-5). Lab. 15-15-15. Pr., AT 201.**  
Drawing from the model in various media, with emphasis on figure construction, interpretation, and expression.
311. **Lettering (5). Lec. 2, Lab. 9. Pr., AT 101 or 141.**  
Characteristic styles and letter forms; spacing; expressive use; brush and pen lettering. Exercises in creative application.
312. **Graphic Processes (5). Pr., junior standing.**  
A study of the theory and applications of photo-mechanical reproduction, printing processes, typography and related subjects.
313. **Advertising Layout (5). Pr., advanced sophomore standing and AT 311.**  
Basic elements of advertising and editorial layout. Fundamentals of typography, lettering for layout, design in layout, applied problems.
317. **Packaging (5). Pr., junior standing and AT 311.**  
The study of all types of package design and the materials used. New applications to everyday products.
321. **Advanced Modeling (5). Lab. 15. Pr., AT 221.**  
Development of technical skill and of feeling for the expressive organization of form and mass.
323. **Advanced Water Color (5). Lab. 15. Pr., AT 223.**  
Development of technical and compositional skills required for paintings of professional calibre.
325. **Oil Painting (5). Lab. 15. Pr., AT 103 and 141.**  
Still-life, abstract, landscape, and small figure compositions.
326. **Advanced Oil Painting (5). Lab. 15. Pr., AT 325.**  
Large compositions with individual choice of subject matter.
331. **History of Painting and Sculpture (5). Pr., sophomore standing.**  
A description and analysis of the development of painting and sculpture from prehistoric through modern times as related to the cultural setting. Illustrated lectures, readings, drawings, and reports.
332. **American Painting and Sculpture (3). General elective.**  
A survey of American art and artists from the Colonial period to the present day. Illustrated lectures, readings.
- 336-7. **Advertising Design I-II (5-5). Lab. 15-15. Pr. AT 241.**  
Analysis and solution of problems in the various phases of advertising and commercial art; layouts and renderings.
342. **Elementary School Art (5). Lec. 2, Lab. 8.**  
Materials and methods for the development of art activities in elementary schools; exercises in expressive drawing, painting, design, and simple lettering.
355. **Illustration I (5). Lab. 15. Pr., AT 302.**  
Basic problems in illustration emphasizing both esthetic and functional aspects. Drawings and designs for line and halftone reproduction.
356. **Illustration II (5). Lab. 15. Pr., AT 355.**  
Printmaking and applications to illustration. Research on pertinent art movements.
361. **Fashion I (5). Lab. 15. Pr., AT 104, 201 and 241.**  
Drawing the fashion figure, employing basic types of rendering used in fashion advertising.
362. **Fashion II (5). Lab. 15. Pr., AT 361.**  
Problems in advanced rendering for fashion advertising; figured and textured fabrics, furs, and accessories.
371. **Industrial Design I (5). Lab. 15. Pr., AT 241.**  
Three dimensional organization, familiarization with the qualities of materials and their creative use and combination. Introduction to modelmaking.

- 372. Industrial Design II (5). Lab. 15. Pr., AT 371.**  
Graphic expression of three-dimensional forms using various mediums available to the designer. Form studies of mass relationships.
- 373. Industrial Design III (5). Lab. 15. Pr., AT 372.**  
Design analysis of forms and development of more complex arrangements of simple forms.
- 425-6. Figure Painting I-II (5-5). Lab. 15-15. Pr., junior standing, AT 302 and 325.**  
Painting from the model; head and figure; portraits; emphasis on expressive style.
- 431. Contemporary Art (3). General elective.**  
A survey of modern painting, sculpture, and industrial design. Illustrated lectures, readings.
- 432-3. Seminar in Art Problems (5-5). Pr., senior standing.**  
Open to students who have shown ability, initiative and industry in carrying out individual projects. Research reports, and drawings under supervision on approved topics.
- 434. Seminar in Art History Problems (5). Pr., senior standing.**  
Open to students who have shown ability, initiative, and industry in carrying out individual projects. Research, reports, and drawings under supervision on approved historical topics.
- 435-6. Advertising Design III-IV (5-5). Lab. 15-15. Pr., AT 337.**  
Problems requiring increasing analytical study, leading to work of professional calibre.
- 442. Art in Education (5). Lec. 3, Lab. 6. Pr., junior standing.**  
Lectures, reading and research concerning principles and objectives of pertinent phases of Art for the purpose of understanding their significance in teaching at all levels. Laboratory experimentation in basic procedures of painting, graphic arts and sculpture as a means of relating the art experience to educational practice. Emphasis is placed upon creativity rather than technical skill.
- 451-2-3. Pictorial Design I-II-III (5-5-5). Lab. 15-15-15. Pr., junior standing and AT 326.**  
Problems in picture design for students of painting.
- 457-8. Illustration III-IV (5-5). Lab. 15-15. Pr., AT 356.**  
Sustained illustrative projects employing a variety of concepts, media and applications. Research on pertinent art movements.
- 463. Fashion III (5). Lab. 15. Pr., AT 362.**  
Design of clothing in all categories; historic adaptations; wardrobe color coordination; personality styling.
- 464. Fashion IV (5). Lab. 15. Pr., AT 463.**  
Advanced problems in illustration; advertising layout for newspaper, magazine and pattern book.
- 471. Industrial Design IV (5). Lab. 15. Pr., AT 373.**  
Product development. Analysis of function, safety, consumer opinion and acceptance. Mechanical studies and mockup models.
- 472. Industrial Design V (5). Lab. 15. Pr., AT 471.**  
Advanced product development. Structural analysis and working model studies. Presentation procedures. Display design.
- 495. Thesis (5). Lab. 15. Admission only upon recommendation of the Faculty Thesis Committee.**  
The analysis and solution of an advanced problem in creative design in the student's special field. The specific problem and the program of research and work will be prepared by the student for the approval of the department staff. In addition to the finished work of art or presentation drawings, a written report must be submitted stating the assumptions, results of research, methods and justification of the final solution. The whole thesis will be defended orally before the staff and guest specialists. Theses, including all drawings, paintings and models become the property of the Department of Art.

#### GRADUATE COURSES

- 605-6-7-8. Graduate Design (5-5-5-5). Lab. 15-15-15-15.** Sykes and Staff  
Advanced programs of creative design in the student's elected field.
- 641-2-3. Graduate Research in Art Problems I-II-III (5-5-5).** Sykes and Staff  
Research on approved topics in the student's special field. Conferences and reports.
- 699. Research and Thesis (Credit to be arranged). All quarters. Pr., AT 495 or equivalent.** Applebee and Staff  
A major art problem consisting of a sustained single project or a logical sequence of shorter projects. The candidate will be required to conceive and execute a work or works exhibiting pronounced creative ability and technical proficiency. Upon recommendation of the major professor, a written essay may be required to accompany the project. All drawings, paintings, and models connected with this work will be retained by the Department of Art.



**Botany and Plant Pathology (BY)**

*Professors Lyle, Cairns, D. Davis, and Seal*  
*Associate Professors Curl, Diener, and Drake*  
*Assistant Professors N. Davis, Goslin, and Marshall*  
*Instructor Jones*

The science of Botany deals not only with the well-known seed plants, such as the pine trees and the cotton plant, but also with such less-known plants as the ferns, the mosses, the liverworts, the lichens, the disease-causing fungi, and the seaweeds, plant forms that the average person knows little or nothing about, yet which are of tremendous everyday importance. The fundamental place of plants in the economy of daily life, as the basic source of the world's food and energy, warrants a careful and detailed study of their forms, their structures, their process, their means of growth and reproduction, and many other phases of their existence. Only by such studies may we discover the maximum resources of plants.

The required courses in Botany are designed to give the student knowledge of the fundamental nature of plants as a phase of general culture, and as a basis for further studies in the plant sciences.

The elective courses offered are intended to meet the needs of three different groups of students, namely: 1) those who intend to engage in farming or in farm demonstration work; 2) those who plan to teach in secondary schools; 3) those who desire a thorough technical training in Botany as preparation for plant disease inspection, investigational work in experiment stations or the United States Department of Agriculture, or who desire to obtain college training positions.

Graduate curricula leading to the M.S. and Ph.D. degrees are offered especially for students who want to prepare for college teaching or research work.

201. General Botany (5). Lec. Dem. 5. All quarters. Staff  
 An introduction to botany dealing with the development, structure, and function of plants. Precedes all advanced courses in botany.
202. General Botany (5). Lec. Dem. 5. All quarters. Pr., BY 201. Seal  
 The principal natural groups of plants embracing their particular structure, habits, reproduction, and relationships.
205. Pharmaceutical Botany (5). Lec. Dem. 5. Winter, Spring. Seal  
 Study of the various groups of plants, the macroscopic and microscopic characteristics of the various plant organs. Emphasis placed on drug yielding plants. Restricted to students in Pharmacy.
306. Introduction to Plant Physiology (5). Lec. 3, Lab. 4. Pr., BY 201, CH 103-104. Goslin  
 General aspects of fundamental life processes of plants involving physiological, structural, and environmental relationships.
308. Plants and Man (3). Lec. 3. Summer. General elective. Staff  
 A brief introduction to the botanical characteristics of most categories of plants including their kinship, origin, past and present distribution, and various ways utilized, as timbers, fruits and other foods, fibers, forage, ornamentals, drugs, etc. Local field trips will be made. (Restricted to students who have had no more than 5 hours credit in botany.)
309. General Plant Pathology (5). Lec. 3, Lab. 4. Winter, Spring. Pr., BY 201-2. Marshall  
 A fundamental course dealing with the nature, cause, and control of plant diseases illustrated by studies of the more common diseases of cultivated crops.
310. Forest Pathology (5). Lec. 3, Lab. 4. Winter, Spring. Pr., BY 201-2. Marshall  
 A study of diseases of trees in forests, parks, streets, and nurseries, as well as the more important fungi causing rots of timber and its products.
401. Principles of Biometry (5). Lec. 4, Lab. 2. Fall. Pr., MH 111 or 107 and Drake  
 junior standing.  
 Designed to enable the professional agricultural worker to read reports of experiments with more discernment and as a basic course in the mathematical treatment of data for the research worker. The reduction and simplification of data and their attendant variation. The calculation, application, and limitations of tests of reliability. Special emphasis on methods of treatment comparisons.
406. Systematic Botany (5). Lec. 2, Lab. 6. Spring. Pr., BY 201-2 and junior stand- D. Davis  
 ing.  
 The identification and classification of flowering plants. Field trips will be made.

410. Aquatic Plants (5). Lec. 2, Lab. 6. Summer. Pr., BY 201-2 and junior standing. Staff  
The study of the chief aquatic plants found in the fresh waters of Alabama, with emphasis on their economic value in wildlife management and fish culture.
412. Principles and Methods in Plant Pathology (5). Lec. 3, Lab. 4. Winter. Pr., BY 309 or 310 and junior standing. Lyle  
Emphasis will be placed on the principles governing the development of plant diseases and their control. The laboratory will consist of a study of the techniques used in isolation, culture, and inoculation of plant pathogens.
413. General Plant Ecology (5). Lec. 3, Lab. 4. Fall. Pr., BY 306 and junior standing. D. Davis  
Distribution and association of plants in relation to soils, climate, and other major factors of the environment. Field trips will be made.
415. Developmental Plant Anatomy (5). Lec. 3, Lab. 4. Winter. Pr., BY 201, CH 104, and junior standing. Goslin  
A study of the comparative anatomy of vascular plants, with emphasis on developmental relationships, evolution, and structure. Economically important species will be studied as examples.
416. Plant Microtechnique (5). Lec. 2, Lab. 6. Winter. Pr., BY 201, 306 or 415 and junior standing. Cairns  
Principles and methods of fixing, imbedding, sectioning, staining, and mounting the various plant organs and organisms for permanent or semipermanent microscope slide preparations.
419. Principles in Plant Disease Control (3). Lec. Dem. 4. All quarters. Pr., BY 309 and graduate standing. Diener  
Designed to acquaint the student with such principles of plant disease control as protection, exclusion, eradication, and resistance. The control of important plant pathogens will be considered by each method. Emphasis will be placed on chemical control with antibiotics, fumigants, and fungicides.
420. Weed Identification and Control (5). Lec. 3, Lab. 4. Spring. Pr., BY 201 and junior standing. D. Davis  
Recognition of the more noxious weeds, their ecology, habit of growth, dissemination and the evaluation of the various methods of control.
421. Weeds (3). Lec. 3, Lab. 4. Summer and Fall. Pr., BY 201 and graduate standing. Staff  
The identification and control of Alabama weeds. (Credit for both BY 420 and BY 421 may not be used to meet requirements for the Master's degree.)
430. Nematode Diseases of Plants (3). Lec. 3. Winter. Pr., BY 201-2, ZY 101 and junior standing. Cairns  
Designed to acquaint students in agricultural sciences with the role of nematodes as plant parasites; study of representative plant diseases caused by nematodes; principles and practices of control.
435. Plant Biology I (5). Lec. Dem. 5. Summer. Pr., Teaching experience and junior standing. Marshall, Seal  
Designed to provide the secondary school teacher with the basic principles of plant science and emphasizing applications of plants to human affairs. Restricted to students in Education except by special permission.
436. Plant Biology II (5). Lec. Dem. 5. Summer. Pr., BY 435 and junior standing. Seal  
Designed to provide the secondary school teacher with practical experience in laboratory and field identification of common plants and their habitats, emphasizing the collection, preservation and preparation of specimens for classroom use. Restricted to students in Education except by special permission.

## GRADUATES ONLY, MAJOR OR MINOR

601. Advanced Biometry (5). Lec. 5. Winter. Pr., BY 401. Drake  
A continuation of course BY 401 to extend the general methods of handling data to those more refined and critical. Special emphasis to be placed on methods of planning experiments to yield maximum information.
602. Design and Analysis of Experiments (5). Spring. Pr., BY 601. Drake  
Principles and methods of designing efficient experiments; methods of analysis; problems in interpretation of results; methods of increasing precision; size of experiments; factorial experiments, complete and incomplete block designs, combining experiments.
605. Advanced Plant Physiology I (5). Lec. 3, Lab. 4. Fall. Pr., BY 306. Staff  
Water relations and mineral nutrition; internal and external factors affecting the absorption, translocation, utilization, and loss of water and mineral elements by green plants.

606. **Advanced Plant Physiology II (5).** Lec. 3, Lab. 4. Winter. Pr., BY 306. Staff  
Plant growth; internal and external factors affecting vegetative and reproductive growth of green plants.
607. **Advanced Plant Physiology III (5).** Lec. 3, Lab. 4. Spring. Pr., BY 306. N. Davis  
Metabolism; internal and external factors affecting the processes of photosynthesis, respiration, assimilation, and accumulation in green plants.
608. **Advanced Systematic Botany (5).** Lec. 2, Lab. 6. Spring. Pr., BY 406. D. Davis  
Intensive study of special groups of plants.
609. **Mycology (5).** Lec. 3, Lab. 4. Pr., BY 201-2 and consent of instructor. Curl  
A systematic survey of the fungi with emphasis on the relationship of fungi to the welfare of man.
610. **Algae (5).** Lec. 2, Lab. 6. Winter, even years. Pr., BY 410. N. Davis  
A general course dealing with the identification, growth, reproduction, distribution, evolution, and economic importance of the algae.
611. **Ecology of Soil Fungi (5).** Lec. 2, Lab. 6. Summer or Fall. Pr., BY 412, AY 504. Curl  
Quantitative and qualitative consideration of the microbial population of the soil; associative and antagonistic effects of soil microorganisms; relationships between soil microbes and higher plants; and methodology for studying microbial relationships and their effects on plant pathogenic organisms.
612. **Physiology of the Fungi (5).** Lec. 3, Lab. 4. Winter, odd years. Pr., BY 306, 412, 609, or consent of instructor. N. Davis  
A study of the chemical activities of fungi as related to their nutrition, growth, reproduction, and fermentive abilities.
613. **Experimental Plant Ecology (5).** Lec. 2, Lab. 6. Pr., BY 413. Summer. D. Davis  
A field course covering the methods of obtaining quantitative data on the structure and composition of plant communities as well as the use of instruments for evaluating the environment.
614. **Seminar (1).** Fall, Winter, Spring. Staff  
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization and presentation of material by the students. This is a joint seminar among the departments of Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Required of all graduate students in these departments.
615. **Morphology of Crop Plants (5).** Lec. 3, Lab. 4. Summer. Pr., BY 306, BY 415 or 416. Staff  
The basic principles of reproduction in angiosperms with particular emphasis on their relationships to crop production, plant breeding, and genetics.
616. **Plant Cytology (5).** Lec. 3, Lab. 4. Spring. Pr., BY 306, and BY 416 or ZY 308. Staff  
A course dealing with plant (and to a lesser extent animal) chromosomes, their number, structure, evolution and methods of evolution. The effects of various environmental agents, chemical and physical, on chromosome structure and evolution.
618. **Diseases of Special Crops (5).** Lec. and Lab. 6. Summer or Fall. Pr., BY 201, BY 309, or 310, BY 412, and BY 430. Staff  
The identification, epidemiology, etiology, and control of the major diseases on various kinds of economic plants, to be selected on the basis of current needs of the students. Subject matter to be presented by various specialists within the department.
620. **Chemical Weed Control (5).** Lec. 3, Lab. 4. Fall or Summer, odd years. Pr., BY 306, BY 406 or 420. D. Davis  
Application, mode of action, physiological relationships, recent advances, and special weed problems in crops.
625. **Special Problems. Credit to be arranged.** Staff  
A. Cytology; B. Ecology; C. Morphology; D. Mycology; E. Nematology; F. Pathology; G. Physiology; H. Taxonomy; I. Chemical Weed Control.
630. **Advanced Phytonematology (5).** Lec. 3, Lab. 4. Fall. Pr., BY 430. Cairns  
Detailed studies of the nematodes parasitic on plants; special emphasis will be given to host-parasite relationships and recent advances in phytonematology.
635. **Botany and Modern Living (5).** Lec.-Dem. 5. Summer. Pr., BY 435 and teaching experience. Marshall  
Designed to provide the secondary school teacher with a better understanding of plants and plant products including algae as a potential source of food, antibiotics, cosmic significance of photosynthesis, and microorganisms in industry in the modern world.

640. Departmental Forum (1). Fall, Winter and Spring. Required of all majors, open to all minors. Lyle  
Discussions concerning current topics in the various sciences and related fields.
650. Nuclear Science in Agriculture (5). Lec. 3, Lab. 6. Spring. Pr., Graduate standing with research experience. D. Davis  
A study of the role of nuclear science in agricultural research with training in the use of radioisotopes and familiarization with the possibilities, limitations, and necessary safety precautions.
699. Research and Thesis. Credit to be arranged. May be taken more than one quarter. Staff
799. Doctoral Research and Dissertation. Credit to be arranged. Staff

## Building Technology (BT)

*Head Professor Orr*

*Professor Marty*

*Assistant Professors Darden and Dean*

104. Introduction to Building (5). Lab. 15.  
Survey of the Building Industry; building procedures; study of plans and details; use of drawing tools; elements of estimating. Lectures, readings, drawings.
105. Drawing and Projections (5). Lab. 15.  
Application of geometry to orthographic, isometric, cavalier, cabinet, and perspective projections. Exercises in working drawings.
106. Materials and Construction (5). Pr., BT 104.  
Structural and finish materials and assembly systems used in buildings. Lectures, reports, readings, drawings.
220. Mechanics of Structures (5). Pr., PS 205, MH 202.  
Principles of mechanics as applied to building construction, graphic statics; resolution of external forces; analysis of trusses; centroids; moments of inertia; friction. Lectures, demonstrations, problems.
- 311-2-3. Structures I-II-III (3-3-3). Pr., BT 220.  
Study of statically determinate structures including beams, columns, trusses, struts and tension members. Shear and bending moments, torsion, slope and deflection. Problems are worked in wood, reinforced concrete, steel and other structural materials. Lectures, research and problems.
- 367-8-9. History of Building I-II-III (3-3-3). Pr., BT 106.  
An analysis of the development and use of construction methods and materials showing the effects of this development on building form from ancient to contemporary times. Illustrated lectures, readings, reports and drawings.
- 411-2-3. Structures IV-V-VI (3-3-3). Pr., BT 313.  
Continuation of Structures I-II-III in the field of statically indeterminate structures. Consideration of lateral stability in buildings. Design of foundations. Lectures, research and problems.
421. Construction Problems I (5). Lab. 15.  
Solution of practical problems of the type normally encountered in the erection of buildings. Layouts, design of formwork and scaffolding. Material storage and handling. Job organization. Demonstrations, research and drawings.
422. Construction Problems II (5). Lab. 15. Pr., BT 312 and 421.  
Continuation of BT 421; solution of problems taken from working drawings, specifications, shop drawings and contract documents. Discussions, research, estimates, computations, drawings.
433. Construction Methods and Estimating (5). Pr., BT 160 and 312.  
Material quantities; estimating; builder's organization and procedure; job records; builder's liability; labor relations; safety precautions. Preparation of quantity lists from working drawings; lectures, problems.
- 452-3. Building Equipment I-II (3-3). Lec. 2, Lab. 3. Each quarter. Pr., PS 206.  
Description and analysis of heating, air conditioning, water supply, plumbing, electrical wiring, motors, elevators, and illumination as related to buildings. Lectures, demonstrations, readings, problems.
490. Building Construction Thesis (5). Lab. 15 or (7). Lab. 21. Pr., BT 422, 433 and 4th year standing, third quarter. Admission only upon recommendation of the Faculty Thesis Committee.  
The preparation of a detailed cost estimate and construction program of a building selected by the student with the approval of the department staff. Required: a report setting forth a description of the building and its site, a list of quantities of materials, a list of unit

prices for materials and labor, detailed cost sheets; forms for presentation of bids, contract with owner, contract with subcontractors; a construction schedule; and an outline of construction methods required. The candidate will defend the thesis orally before the staff and guest specialists.

**521-2-3. Advanced Structures I-II-III (5-5-5). I, Fall; II, Winter; III, Spring. Pr., BT 413.**

Theory and practical design of complex and long span structures, both in steel and reinforced concrete. Multiple story buildings, towers, arches, vaults, domes, thin shell systems, foundations. Lectures, research and problems.

**541. Building Equipment III (2). Lab. 6. Pr., BT 453 and AR 403.**

A continuation of Building Equipment I and II in selected laboratory problems.

**GRADUATE COURSES**

**605-6-7. Graduate Research in Building (5-5-5). All quarters.**

Staff

Independent investigation and reports on topics selected by the student with approval of the instructor.

**621-2-3. Graduate Construction Design (5-5-5). Lab. 15-15-15. All quarters. Pr., BT 523.**

Staff

The analysis and solution of complex problems in construction design, with particular emphasis upon practical and economical application to a selected building. Conferences, working drawings, scale models.

**699. Research and Thesis. Credit to be arranged. May be taken more than one quarter.**

Staff

The analysis and solution of an advanced problem in building. The choice, scope and program of study for the problem must be submitted by the candidate for approval of the department staff during the first week of the quarter.

**Chemical Engineering (CN)**

*Professors Basore and Wingard*

*Associate Professors Moore, Vives, Yeh, and Findley\**

**201. Chemical Engineering Fundamentals (2). Lab. 6. Pr., MH 262, PS 201.**

Definition and scope of chemical engineering, evaluation of engineering materials, process calculations, and experiments.

**300. Process Calculations (3). Pr., CN 201.**

This course is a continuation of CN 201. It includes problems relating to the thermophysics, thermochemistry, and more comprehensive problems in fuels, combustion, and chemical metallurgical and petroleum processes.

**321. Chemical Process Industries (3). Pr., CH 408.**

Study of inorganic chemical manufacturing processes. Includes flow sheets, process variables, automatic instruments, application of physical chemistry, economics and costs.

**322. Organic Process Industries and Kinetics (3). CH 305, CH 408.**

Relates to the kinetics of reactions, optimum operating conditions, correlation of plant data, instrumentation, corrosion, applications of economics, and selection of process equipment.

**324. Fluid Mechanics (4). Pr., MH 264, PS 203.**

A study of fluid mechanics, including flow through porous media and fluidized beds.

**326. Heat Transfer (5). Lec. 3, Lab. 6. Pr., PS 203. Coreq., CN 324.**

A study of the principles of heat transfer, including radiation, conduction, and convection. Representative laboratory problems in fluids, heat transfer, and evaporation.

**423. Unit Operations (5). Lec. 3, Lab. 6. Pr., CN 326.**

Diffusion, psychrometry, drying and filtration, size reduction, and materials handling. Laboratory experiments relate to the above.

**424. Mass Transfer (5). Lec. 3, Lab. 6. Pr., CN 326.**

Distillation, absorption, and extraction. Laboratory experiments relate to the above.

**426. Engineering Metallurgy (5). Lec. 4, Lab. 3. Pr., CH 408 and junior standing.**

Physical metallurgy with special reference to the effect of mechanical work and heat treatment on the properties of ferrous metals and alloys, and non-ferrous metals and alloys. Titanium, Zirconium, Thorium, Tantalum, and Beryllium also are studied.

**430. Computer Principles (2). Pr., MH 361, CN 423.**

Study of the basic principles of analog and digital computer theory, and applications to the chemical engineering.

**432. Instrumentation (4). Lec. 2, Lab. 6. Pr., MH 264, PS 203.**

Automatic feedback control, servomechanisms, instrumentation of typical equipment, laboratory work includes performance characteristics of typical instruments and remote-control.

\* Part-time Engineering Experiment Station.

437. **Process Engineering (4).** Lec. 2, Lab. 6. Pr., junior standing and CN 322, CN 423. Coreq., CN 424.  
Semi-independent work of individuals and small groups. The subject matter relates to the study of the scientific literature, laboratory operations designed to develop a satisfactory process, and pilot plant development and operation; including cost analyses, a market study, and the writing of reports. Principles of report writing are stressed.
440. **Nuclear Engineering (5).** Pr., senior standing in engineering, B average except by special permission.  
Includes units and nomenclature, the nuclear chain reactor, radiation, shielding, nuclear properties of materials, instrumentation and control, remote handling, heat transfer with liquid metals, and radioactive waste disposal.
484. **Chemical Engineering Plant Design (4).** Lec. 2, Lab. 6. Pr., CN 437 and junior standing.  
The major responsibility is placed upon individuals or small groups for the optimum design, choosing between alternates, selection of equipment, and the calculation of the required sizes, plant layout, cost analyses and the writing of reports. Comprehensive problems are assigned which usually include heat, materials and economic balances, unit operations and processes, kinetics, and thermodynamics. Some consideration also is given to statistics.
490. **Applied Thermodynamics (5).** Pr., CH 412.  
Thermodynamic properties of fluids, the expansion and compression of fluids, the thermodynamics of solution, physical equilibrium and chemical equilibrium, and important applications to chemical engineering.

#### COURSES PRIMARILY FOR GRADUATE STUDENTS

601. **Fluid Flow and Heat Transfer (5).** Fall. Pr., CN 423.
602. **Diffusional Processes I (5).** Winter. Pr., CN 424.  
Evaporation, drying and distillation. Special emphasis on distillation.
603. **Diffusional Processes II (5).** Spring. Pr., CN 424.  
Special emphasis on absorption and extraction.
604. **Advanced Chemical Engineering Thermodynamics (5).** Pr., CN 490.  
Advanced problems in the application of thermodynamics to industrial processes. Special emphasis on physical equilibrium.
605. **Kinetics (5).** Pr., graduate standing.  
Study of the rates of homogeneous, heterogeneous, and catalytic reactions and applications of the rates to the process industries.
609. **Petroleum Refining Engineering (5).** Pr., graduate standing.  
Theoretical and practical aspects, including solvent extraction, catalytic cracking and synthesis of organic compounds from petroleum.
610. **Advanced Physical Metallurgy (5).** Lec. 4, Lab. 3. Pr., CN 426.  
Heat treatment of ferrous and non-ferrous metals including microscopic studies. Recent developments also are included. This course is open by special permission to seniors who have credit for CN 426.
611. **Advanced Kinetics and Principles of Reactor Design (5).** Pr., CN 605.
612. **Process Dynamics and Control (5).** Pr., CN 432 or equivalent. Coreq., MH 361.  
Dynamics of chemical engineering processes and operations, such as reactors, heat exchangers, flow-storage systems, and diffusional operations. This course deals primarily with the mathematical study of automated systems and some of the aspects of computer control.
699. **Research and Thesis.** Credit to be arranged.

#### Chemistry (CH)

*Professors Capps, Kosolapoff, Land, Nichols, Price, Saunders, Schrader, and Stevens*  
*Associate Professors Baker, Barksdale, Bunger, Melius, Peterson, and Ziegler*  
*Assistant Professor Venezky*

Credit in CH 103-4-5 toward a degree is subject to completion of the corresponding laboratory course, i.e., 103L, 104L, and 105L.

- 103-4. **General Chemistry (4-4).** Each quarter. Coreq., CH 103, MH 111 or MH 107. (CH 103 Pr., for CH 104.)  
A comprehensive course for non-chemistry majors embracing a detailed study of the fundamental principles and concepts of chemistry.
- 103L-104L. **General Chemistry Laboratory (1-1).** Lab. 2.  
These courses must be taken concurrently with the corresponding lecture course.



105. General Chemistry (3). A continuation of CH 104.  
A course for non-chemistry majors devoted to a study of the chemistry of the elements according to the analytical groups. Special emphasis will be placed on the principles of ionic equilibria, solubility product, and related phenomena and their use for the separation and identification of the group constituents.
- 105L. General Chemistry Laboratory (2). Lab. 6.  
Laboratory work will cover qualitative analysis.
111. General Chemistry (5). Lec. 4, Lab. 3. Coreq., MH 111 or MH 107.  
A course designed for chemistry majors and others in closely related areas.
112. General Chemistry (5). Lec. 4, Lab. 3. Pr., CH 111 or CH 103.  
A continuation of CH 111.
113. General Chemistry (5). Lec. 3, Lab. 6. Pr., CH 104 or CH 112.  
A continuation of CH 112. Laboratory work covers Qualitative Analysis.
203. Organic Chemistry (5). Pr., CH 104.  
An abbreviated course in fundamentals of organic chemistry. Designed for students in Home Economics, and others.
204. Biochemistry (5). Lec. 4, Lab. 3. Winter quarter only. Pr., CH 203.  
A brief course especially designed for students in Foods and Nutrition and Nursing Science.
205. Analytical Chemistry (5). Lec. 4, Lab. 3. Pr., CH 113.  
A study of the important theories of analytical chemistry.
206. Quantitative Analysis (5). Lec. 3, Lab. 8. Each quarter. Pr., CH 105 and 105L.  
This course embraces work in both gravimetric and volumetric analysis, including the analysis of some of the more important ores and minerals.
207. Organic Chemistry (5). Lec. 4, Lab. 3. Each quarter. Pr., CH 104.  
A study of the aliphatic hydrocarbons and their derivatives. The course, together with CH 208, is designed to meet the needs of students in Laboratory Technology, Pre-Medicine, Pre-Dentistry, and Pharmacy.
208. Organic Chemistry (5). Lec. 3, Lab. 6. Each quarter. Pr., CH 207.  
A continuation of CH 207. The aromatic hydrocarbons and their derivatives are considered in some detail.
209. Advanced Quantitative Analysis (5). Lec. 3, Lab. 6. Pr., CH 206.
301. Biochemistry (5). Lec. 4, Lab. 3. Pr., CH 208.  
A brief course especially designed for students in Pre-medicine and Pharmacy.
305. Organic Chemistry (5). Pr., CH 208.
316. Physical Chemistry (5). Pr., MH 112, CH 105 and PS 205.  
A one-quarter course for pre-medicine students.
- 317-18. Physical Chemistry (5-5). Lec. 5. Pr., CH 104 and MH 264 for CH 317; CH 317 for CH 318. (For students in Engineering Physics.)
342. Geology (3). General elective.
401. Chemistry for High School Science Teachers (5). Lec. 4, Lab. 3. Summer. Pr., Teaching experience.
404. Organic Chemistry (5). Lec. 3, Lab. 6. Pr., CH 305, and junior standing.  
A continuation of CH 305.
405. Organic Chemistry (5). Pr., CH 404, and junior standing.  
A continuation of CH 404.
407. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., MH 263, CH 206 and PS 201.  
The course embraces a discussion of the more important theories and laws of physical chemistry.
408. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., CH 407.  
A continuation of CH 407.
409. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., CH 408, and junior standing.  
An extension of principles studied in CH 407-8 with special reference to electro-chemistry.
410. Intermediate Inorganic Chemistry I (5). Lec. 5. Pr., junior standing.  
A study of atomic structures, valance bonding and periodic properties of the elements.
412. Chemical Thermodynamics (5). Pr., CH 408, and junior standing.  
A study of the basic laws governing changes in energy in gases, liquids and solids.
- 418-19-20. Biochemistry (5-5-5). Lec. 4, Lab. 4. Fall, Winter, Spring. Pr., CH 206, 208, and junior standing.  
A course for majors in biochemistry and for students in Laboratory Technology. Particular emphasis will be placed on blood and urine analysis in the latter portion of the laboratory work.

## ADVANCED COURSES

601. Selected Topics in Chemistry (5). Lec. 4, Lab. 3. Summer. Pr., CH 401 or its equivalent.  
A study of modern topics in general chemistry and a short review of organic chemistry.
602. Organic Analysis (Qualitative) (3). Lab. 9. Pr., CH 305.
603. Quantitative Organic Analysis I (3). Lab. 9.
604. Organic Synthesis (3). Lab. 9.
605. Quantitative Organic Analysis II (3). Lab. 9. Pr., CH 603.
606. Carbohydrates I (3).  
A study of the chemistry of mono and disaccharides.
607. Heterocyclic Compounds I (3).
608. Heterocyclic Compounds II (3). Pr., CH 607.
609. Metallo and Non-metallo Organic Compounds (3).
610. Inorganic Chemistry I (3). Pr., CH 410.
611. Inorganic Chemistry II (3). Pr., CH 610.
612. Inorganic Preparations I (3). Lab. 9. Pr., CH 410.
613. Inorganic Preparations II (3). Lab. 9. Pr., CH 612.
614. Advanced Inorganic Chemistry I (3).
615. Advanced Inorganic Chemistry II (3). Pr., CH 611.
616. Non-aqueous Solvents (3).
621. Structural Relations in Organic Chemistry as Obtained from Physical Measurements (3).
- 623-24-25. Organic Chemistry (3-3-3).
626. A Study of the Chemistry of Organic Nitrogen Compounds I (3).
627. A Study of the Chemistry of Organic Nitrogen Compounds II (3). Pr., CH 626.
628. Carbohydrates II (3). Pr., CH 606.  
A study of the chemistry of the polysaccharides.
629. Organic Polymers (3). Pr., CH 625.
630. Thermodynamics of Electrolytic Solutions (3).
631. Theory of Reactions Rates (3).
632. Mechanisms of Ionic Reaction and Free Radicals (3).
- 633-34-35. Physical Chemistry (3-3-3).
636. Chemical Thermodynamics II (3). Pr., CH 412.
637. Phase Rule (3). Pr., CH 635.
638. Surface Chemistry and Colloids (3). Pr., CH 635.
639. Statistical Thermodynamics (3). Pr., CH 635.  
Statistical approach to thermodynamics and chemical equilibrium.
640. Introduction to Quantum Chemistry (3). Pr., CH 635.  
Quantum theory as applied to chemical problems.
641. Amino Acids and Related Substances (3).
642. Lipids (3).  
Physical and chemical properties of these substances and their biochemical significance.
643. Enzyme Chemistry (3). Pr., CH 418-19-20 or their equivalent.  
Physical and chemical properties and mechanism of action of enzymes and their role in metabolic reaction.
650. Instrumental Analysis, Electrical and Optical Methods (3). Lab. 9. Pr., CH 408. and 409.
651. Theories of Analytical Chemistry (3).
670. Journal Club (No Credit).  
Required of all graduate students in chemistry.
690. Directed Reading in Organic Chemistry. Credit to be arranged. Pr., Advanced graduate standing.
691. Directed Reading in Physical Chemistry. Credit to be arranged. Pr., Advanced graduate standing.
692. Directed Reading in Inorganic Chemistry. Credit to be arranged. Pr., Advanced graduate standing.

699. Research and Thesis. Credit to be arranged. May be taken more than one quarter.
799. Doctoral Research and Dissertation. Credit to be arranged.

### Civil Engineering (CE)

*Professors Priest, Jaffe, and Watwood*  
*Associate Professors Hudson, Popovics, Shih, and Thacker*  
*Assistant Professors Blakney, Metz*  
*Instructor Francis*

201. Surveying I (5). Lec. 3, Lab. 6. Pr., MH 112 and EG 102 or equivalent. Measurement of distances, elevations, and angles; adjustment of instruments; computation of positions, areas, and volumes; contours; grades; mapping, land surveying.
203. Surveying II (5). Lec. 3, Lab. 6. Pr., CE 201. Route surveying, astronomic observations; photogrammetry.
210. Engineering Surveying (3). Lec. 2, Lab. 3. Pr., MH 112. Use of chain transit and level; precision and accuracy of measurements; theory of errors. For non-Civil Engineering students.
302. Highway Engineering I (5). Pr., CE 201. Development of highways; geometric design; drainage; earthwork operations; construction materials; concrete and bituminous surfaces.
304. Theory of Structures I (5). Pr., ME 306. Stress analysis of statically determinate structures; influence lines; combined stresses.
305. Sanitary Engineering I (5). Lec. 4, Lab. 3. Pr., CE 308. Theory and design of water collection and distribution facilities and waste-water collection systems. Laboratory includes fundamental tests relating to both water supply and waste-water treatment. Emphasis placed on theory and significance of the tests.
308. Hydraulics (5). ME 307. Statics; fundamental equations of motion; ideal fluids; impulse momentum; real fluids; similitude and dimensional analysis; flow in pipes; flow in open channels; measurements; and flow around immersed objects.
310. Construction Planning (3). Lec. 2, Lab. 3. Pr., MH 111, junior standing. Estimate of materials and costs; construction methods; progress charts and reports.
314. Analysis of Aerial Photographs (3). Lec. 2, Lab. 3. Pr., CH 342. A study of soil and rock patterns, characteristics and drainage.
400. Higher Surveying (5). Lec. 4, Lab. 3. Pr., CE 203, junior standing. Photogrammetry; map projections; geodesy; special instruments.
401. Theory of Structures II (5). Pr., CE 304, junior standing. Moving loads; deflections; stress analysis of statically indeterminate structures including double integration, slope deflection and moment distribution.
402. Indeterminate Structures (5). Pr., CE 401 or ME 403, senior standing. Continuation of CE 401; elastic energy; area moments; three-moment equation; secondary stresses.
403. Highway Materials Laboratory (2). Lab. 6. Pr., CE 302 and ME 309. Routine tests of non-bituminous and bituminous materials; fundamentals of design of bituminous and concrete mixes.
404. Reinforced Concrete (5). Lec. 4, Lab. 3. Pr., CE 304, junior standing. Beams and slabs; compression members; forms; building codes.
405. Sanitary Engineering II (5). Lec. 4, Lab. 3. Pr., CE 305, junior standing. Theory, design, construction, and operation of water treatment and waste-water disposal facilities considered on a unit operations basis.
406. Hydraulic Laboratory (1). Lab. 3. Pr., CE 308 or ME 313. Venturi Meters; analysis of experimental data; orifices and stort tubes; Pitot tubes; normal loss of energy in pipes; special loss of energy in pipes; uniform flow in open channels; control meters; impulse turbines; drag.
407. Municipal Engineering I (5). Pr., senior standing. Duties and responsibilities of city engineer and municipal consultant; problems connected with promoting, financing, designing, and constructing municipal improvements.
408. Engineering Foundations (5). Pr., CE 404 or BT 413, senior standing. Geology as related to design of foundations for engineering structures; design of foundations; use of concrete, steel, wood piling, caissons, cofferdams, grillages, and spread footings, reports on current articles in technical publications.

409. **Public Health Engineering (5).** Pr., senior standing.  
Weather and climate, heating, ventilation, lighting; atmospheric pollution; noise; water and waste disposal, rural sanitation and public health aspects of nuclear energy.
410. **Highway Engineering II (5).** Lec. 4, Lab. 3. Pr., CE 302, junior standing.  
Highway planning, financing, and administration; economics of highway improvement; transportation surveys; maintenance; traffic surveys; procedure of awarding contracts and supervision of construction.
411. **Flow in Open Channels (5).** Lec. 5. Pr., CE 308 or ME 313, junior standing.  
Uniform flow, rapidly varied flow, gradually varied flow, subcritical transitions, surges, supercritical transitions, bends, precipitous slopes, energy dissipation, spillways, and oscillatory waves.
412. **Hydrology (5).** Lec. 5. Pr., CE 308 or ME 313, junior standing.  
Precipitation, runoff, flood routing, flood control, river regulation, and coastal engineering problems.
414. **Structural Design I (5).** Lec. 4, Lab. 3. Pr., CE 304, junior standing.  
Steel and timber design; flexural members; columns; trusses; connections; structural frameworks.
416. **Prestressed Concrete Design (5).** Pr., CE 404, senior standing.  
Pretensioning and post-tensioning systems; design of statically determinate and indeterminate prestressed members, flexure, shear, cracking, ultimate capacity, anchorage stresses, raised and stopped cables.
417. **Structural Design II (5).** Lec. 4, Lab. 3. Pr., consent of the instructor and senior standing.  
Arches; continuous structures including bridges, buildings, and special frames.
418. **Soil Mechanics (5).** Lec. 4, Lab. 3. Pr., ME 306, junior standing.  
Engineering properties of soils; soil surveys and sampling; stability; laboratory analysis and tests.
419. **Municipal Engineering II (5).** Pr., senior standing.  
Engineering problems of municipal transportation, communications, water supply, sewerage, streets, schools, shopping, parking, and recreation facilities.
420. **Sanitary Engineering Laboratory (5).** Lec. 4, Lab. 3. Corequisite, CE 405, junior standing.  
Laboratory studies of the physical, chemical, and bacteriological aspects of Sanitary Engineering; laboratory testing procedures and experiments relating to the treatment of waters and wastes; interpretation of routine plant control analyses and indices of pollution.

#### GRADUATE COURSES

600. **Bituminous and Concrete Mix Design (5).** Lec. 3, Lab. 6. Pr., CE 403.  
Review of methods of design of bituminous and concrete mixes, with practice in job and laboratory control tests of aggregates and mixes.
601. **Subgrade Stabilization (5).** Lec. 3, Lab. 6. Pr., CE 418.  
Studies of factors involved in stabilization with practice in laboratory and job control tests.
602. **Advanced Soil Mechanics (5).** Lec. 3, Lab. 6. Pr., CE 418.  
Earth pressure theories; stability computations; seepage computations; consolidation; footing, raft, pile and pier foundation; shearing strengths.
610. **Similitude (5).** Lec. 4, Lab. 3. Pr., CE 308 or ME 313.  
Principles of dimensional analysis and similitude, use of models, distorted models, and analogies.
611. **Hydraulic Structures (5).** Lec. 5. Pr., CE 308 or ME 313.  
Dams, spillway, outlet works, gate structures, locks, structures for river regulation, canals, structures for shore protection, port facilities.
612. **Hydrodynamics (5).** Lec. 5. Pr., CE 308 or ME 313 and MH 361.  
Equations of motion for nonviscous liquids, force potentials, velocity potentials, conformal mapping, circulation, vortices, equations of motion for viscous liquids, boundary layers, drag, turbulence, and wave motion.
613. **Flow of Fluids in Pipes (5).** Pr., CE 308 or ME 313.  
Viscous and turbulent flow of liquids, effects of compressibility, pressure waves, secondary flows, control devices, measuring devices.
620. **Advanced Sanitary Engineering (5).** Pr., CE 405, Corequisite, CE 409.  
An advanced study of the principles utilized in water and sewage treatment processes and public health engineering practice.
621. **Advanced Sanitary Engineering Design (5).** Lec. 3, Lab. 6. Pr., CE 620.  
Problems in the layout and design of water, sewage, or industrial waste systems and treatment plants.

622. **Advanced Sanitary Engineering Practice (5).** Lec. 3, Lab. 6. Pr., CE 420, CE 620.  
Advanced laboratory problems and field exercises in the application of sanitary examination of water, milk, food, wastes, and air; stream pollution and industrial waste surveys; protection of water supplies from nuclear and biological warfare agents.
623. **Industrial Waste Treatment (5).** Pr., CE 620.  
Industrial waste problems, including characteristics of individual industries, effects on streams, and methods of treatment; also the disposal of nuclear wastes.
630. **Advanced Stress Analysis (5).** Lec. 4, Lab. 3. Pr., consent of instructor.  
Buckling of structures, analysis of elastic and plastic stability, torsion, secondary stresses, arches, theory of limit design.
631. **Special Topics in Structural Design (5).** Lec. 4, Lab. 3. Pr., CE 630.  
Design problems related to continuous frames and trusses; economical proportions, analysis and design of connections.
632. **Experimental Stress Analysis (5).** Lec. 3, Lab. 6. Pr., consent of instructor.  
Basic theory and laboratory techniques for experimental stress analysis; measurement of strain by mechanical and electrical gages, brittle lacquer, and photogrid; two dimensional photoelasticity; membrane analogies; treatment of errors. A term paper is required, except for undergraduate students who may be permitted to enroll in this course.
633. **Elasticity (5).** Pr., consent of instructor.  
Plane stress and plane strain; differential equations of equilibrium; equations of compatibility, two-dimensional problems in rectangular and polar coordinates; strain-energy methods; analysis of stress and strain in three dimensions, torsion of circular and non-circular cross-section; bending of prismatical bars; stress evaluation from strain measurements.
634. **Advanced Reinforced Concrete (5).** Lec. 5. Pr., CE 404.  
Effect of shrinkage, plastic flow and deflection on concrete design. Plastic and ultimate strength theories of design. Fundamentals of prestressed concrete.
690. **Seminar.** Credit to be arranged. May be taken more than one quarter.
699. **Thesis.** Credit to be arranged. May be taken more than one quarter.

### Dairy Science (DH)

*Professors Autrey and Cannon*  
*Associate Professor Rollins*

The department offers training in the theory and practice of dairy husbandry and dairy manufacturing. Courses are designed to meet the practical and scientific needs of farm and factory practices. Requirements for doing graduate work are described in the graduate catalog.

It is expected that each student taking a major in this department shall have four months of practical dairy farm or dairy plant experience before graduation.

200. **Fundamentals of Dairying (5).** Lec. 4, Lab. 3. All quarters. Pr., CH 103. Not open to students who have had DH 201 or DH 301. Staff  
General survey of dairying. Feeding, care and management of dairy cattle. Dairy farm equipment and records. Composition and properties of milk. Handling, testing and processing of milk.
305. **Practical Dairy Tests (5).** Lec. 3, Lab. 4. Fall. Pr., DH 200 or DH 201. Cannon  
Routine laboratory practices in testing dairy products and the application of such tests in controlling the composition of dairy products; adapted to dairy inspection work.
308. **Dairy Bacteriology (5).** Lec. 3, Lab. 4. Winter. Pr., DH 200 or DH 201, VM 200, 311, 330, 415, or 420. Cannon  
Bacteriology of dairy products; types of organisms encountered and their practical significance; routine bacteriological tests and their application.
310. **Technical Control of Dairy Products (5).** Lec. 3, Lab. 4. Spring. Pr., DH 305 and 308. Cannon  
Application of bacteriological and chemical tests to plant operation. Special tests and their application.
- 311-12-13. **Judging Dairy Products (1-1-1).** Lab. 3. Winter, Spring, Fall. Cannon  
Flavor analysis of dairy products. Score cards used in evaluation of flavor characteristics and other factors.
- 314-15-16. **Judging Dairy Cattle (1-1-1).** Lab. 3. Winter, Spring, Fall. Rollins  
Studies and practical work in comparative judging of dairy cattle; study of breed score cards; fitting for exhibition.

317. Dairy Cattle Feeding and Management (5). Lec. 4, Lab. 3. Fall. Pr., DH 200 or DH 301, AH 204. Rollins  
Evaluation of various feeds for growth and milk production; nutritional requirements of dairy animals; application of the principles of nutrition to dairy cattle feeding; calculating rations. Some time devoted to dairy cattle breeding plans, procedures of herd record keeping, management problems.
402. Artificial Insemination (3). Lec. 1, Lab. 6. Winter. Pr., DH 200 and junior or senior standing. Rollins  
The Artificial Insemination Association; anatomy and physiology of bovine reproduction; practice in collecting, processing and using semen in breeding cows; and study of factors affecting breeding efficiency.
403. Dairy Farm Practices (5). Lec. 3, Lab. 6. Spring. Pr., DH 317 and junior standing. Rollins  
Practical study of feed production, storage, and feeding problems; analysis of herd records and pedigrees; study of herd management procedures. In this course emphasis is on situations and records existing on dairy farms.
406. Dairy Cattle Feeding and Management (3). Pr., AH 204 and DH 200 or DH 317, and graduate standing. Rollins  
Bases of modern feeding practices; emphasis on reasons for feeding high quality roughage and high energy feeds. Limited study of dairy herd management problems and practices; milk production, testing and recording; appraisal of artificial breeding as a tool in cattle improvement.
- 408-9-10. Dairy Plant Processing (5-5-5). Fall, Winter. Lec. 4, Lab. 3. (Spring. Lec. 2, Lab. 9.) Pr., senior standing. Cannon  
Detailed study of fundamental processing operations. Application of these operations in market milk production and in the manufacture of cheese, ice cream, butter and condensed dairy products.
411. Food Plant Sanitation (3). Lec. 2, Lab. 2. Winter. Pr., junior standing. Cannon  
Sanitary regulations of food plants. Principles and procedures of cleaning and sanitizing food handling equipment.

## GRADUATE COURSES

601. Milk Secretion (5). Pr., DH 317. Autrey  
Anatomy and physiology of milk secretion; milk precursors; factors affecting composition of milk.
602. Advanced Technical Control of Dairy Products (5). Fall. Pr., DH 305. Cannon  
Advanced methods of analyses of dairy products and the relation between composition and processing methods.
603. Special Problems in Dairy Cattle Nutrition (3). Lec. 4. Pr., DH 406 and graduate standing. Staff  
Study of literature on classical dairy cattle nutrition research and on current nutrition problems. Emphasis on interpretation and appraisal or research results reported in literature. (Credit for both DH 603 and DH 608 may not be used to meet requirements for the Master's degree.)
604. Advanced Market Milk (5). Pr., DH 304. Autrey and Cannon  
Scientific investigations of current problems and their application to the commercial processing and handling of market milk. Special assigned problems.
605. Advanced Ice Cream Making (5). Pr., DH 401. Cannon  
Scientific investigations of current problems and their application to the commercial manufacture and handling of ice cream. Special assigned problems.
607. Advanced Dairy Cattle Breeding (5). Pr., DH 402 and DH 403. Autrey, Rollins  
The anatomy and physiology of reproduction in dairy cattle; artificial insemination problems.
608. Special Problems in Dairy Cattle Feeding and Management (5). Fall. Pr., DH 317, 403. Staff  
Critical review of literature on dairy cattle feeding and management; analysis and interpretation of recent research results.
609. Experimental Methods in Dairy Research (5). Pr., BY 401. Staff  
Study of technics in designing dairy research projects and in analyzing results.
611. Seminar (1). May be taken for more than one quarter. Staff
699. Research and Thesis. Credit to be arranged. Staff



**Dramatic Arts (DR)**

*Head Professor Peet*  
*Assistant Professor Knowles*

101. **Dramatic Production (5). Lec. 2, Lab. 9.**  
 An apprenticeship in the fundamentals of producing plays from the practical point of view. A general grounding in the field.
102. **Acting and Stage Techniques (5). Lec. 2, Lab. 9.**  
 An introduction to acting and methods of production.
199. **Dramatics (1).**  
 Any student interested in working with the Department of Dramatic Arts' producing organization, the Auburn Players, is eligible. A minimum of thirty hours' work is required. (May be taken for credit for a maximum of six quarter hours.)
201. **Directing (5). Lec. 3, Lab. 6.**  
 An elementary study of the process of directing non-professionals.
202. **Acting and Make-Up (5). Lec. 3, Lab. 6.**  
 The technique and psychology of acting, and elementary stage make-up.
203. **Stage Mechanics (5). Lec. 3, Lab. 6.**  
 A study of scene design, materials, construction, and stage lighting.
204. **Dramatic Theory (5).**  
 A study of the dramatic theories of the past and present which have influenced the present day theatre.
- 310-11-12. **World Theatre (5-5-5). Pr., DR 201-2-3-4 or permission of instructor.**  
 An advanced course dealing with the plays, actors, stages, and audiences, and with the aesthetic and social backgrounds of the theatre from the beginning through the Nineteenth Century.
313. **Drama Appreciation I (3). General elective. Not open to Dramatic Arts Majors.**  
 A survey of the theatre and stagecraft from early times to the present day, emphasizing the social and artistic position of the stage in each civilization.
314. **Drama Appreciation II (3). General elective.**  
 A survey of contemporary plays and productions, aimed to make theatre-going intelligent fun.
- 401-2-3. **Advanced Directing (5-5-5). Lec. 1, Lab. 12. Pr., junior standing, permission of instructor.**  
 Productions will be prepared and produced by the student.
- 407-8-9. **Advanced Stagecraft (5-5-5). Lec. 1, Lab. 12. Pr., junior standing, permission of instructor.**  
 Productions will be designed, built, lighted and operated by the student.
413. **Twentieth Century Theatre (5). Pr., junior standing, permission of instructor.**  
 A study of the present-day theatre.
- 425-26. **Dramatics in the School (5-5). Pr., senior or graduate standing. (Either part can be taken separately.) To be offered in the Summer quarter only.**  
 For the teacher who is called upon to select, plan, coach, and produce plays, classroom and assembly programs. The course gives a background of what-to-do and how-to-do-it.

**Economics (EC), Secretarial Training (ST) and Sociology (SY)**

*Head Professor Anson*

*Professors Klontz, Miller, Richardson, Rutland, and Sanders*

*Research Professor Steele*

*Associate Professors Boston, Gritz, Hartman, Hill, Myles, Bonin,*

*Patton, Hartwig, Stalnaker, and Kinsey*

*Assistant Professors Bagwell, Beck<sup>oo</sup>, Bliss, J. S. Cook, Erwin, Franklin,*

*Frisby, D. P. Hale, F. O. Hale, Hanna, Rossner,*

*Holcomb, Lamar, Shields, Waldo, and Williams*

*Instructors C. W. Cook<sup>\*</sup>, Dorman, Hourihan, Balch, Beason,*

*Prestridge<sup>\*</sup>, Reynolds, Rutledge, Evans, Brown, and Dawson*

*Graduate Assistants Dudko, Heatherly, Mize, Reeder, Woodley, and Wang*

**Economics (EC)**

The program in Economics and Business Administration is designed to prepare students for careers in business and industry. It also offers training for careers which

<sup>\*</sup> Temporary.

<sup>oo</sup> On leave.

require basic study in Economics supplemented with a broad cultural program. Courses are arranged below to indicate the different fields of concentration available to departmental majors and to students in other departments and schools. Students in the Science and Literature curriculum majoring in Economics must include EC 201-2; 345, and 360. Business Administration majors follow the curriculum outlined on page 184.

### Accounting

- 211-12. Introductory Accounting (5-5).** Lec. 3, Lab. 4. Pr., sophomore standing. Gritz, Staff

A study of bookkeeping procedure and elementary accounting principles. EC 211 is prerequisite to EC 212.

- 213-14. Engineering Accounting and Cost Control (5-5).** Lec. 3, Lab. 4. Pr., sophomore standing. EC 213 is prerequisite to EC 214. Hill, Staff

This course is particularly designed for students of engineering. During the first course basic accounting principles and procedures are stressed from an engineering approach. During the second course emphasis is made on cost finding and cost accounting control of industrial concerns.

- 311-12. Intermediate Accounting (5-5).** Lec. 3, Lab. 4. Pr., EC 212 or 214. Hartman, Staff

A study of the advanced principles of accounting involving partnerships, corporations, systems, and analysis of financial statements.

- 314. Income Tax Accounting (5).** Pr., EC 212 or 214. Gritz, Staff

Interpretation of the regulations, preparation of returns, and the keeping of accounting records for tax purposes will be considered in this course.

- 411-12. Cost Accounting (5).** Lec. 2, Lab. 6. Pr., junior standing and EC 214 or 312. Hill, Staff

A study of accounting principles involved in job-lot, process and standard cost systems.

- 414. Advanced Income Tax Accounting (5).** Pr., junior standing and EC 312 and EC 314. Staff

A study of special tax accounting problems of individuals, partnerships, corporations, estates, and trusts. Extensive use will be made of a tax service program.

- 416. Auditing (5).** Pr., junior standing and EC 312. Gritz, Staff

This course is a study of the principles of auditing with particular attention to methods of testing, analyzing, and summarizing accounting records.

- 417-18. Advanced Accounting (5-5).** Lec. 2, Lab. 6. Pr., junior standing and EC 312. Staff

Advanced accounting theories and procedures, consolidation of financial statements, and other special problems will be studied in this course.

- 419. Governmental Accounting (5).** Summer and Winter Quarters. Pr., junior standing and EC 312. Hartman

A study of budgeting and accounting procedures of governmental divisions.

### Economic Theory and History

- 200. General Economics (5).** Pr., sophomore standing. Ritland, Staff

A survey course in principles and problems of economics dealing with analyses of production costs, determination of prices, and national income composition and distribution. This course not open to majors in Economics and Business Administration. Primarily a service course for students majoring outside the Commerce and Economics fields. Credit may not be earned in both EC 200 and EC 201.

- 201-2. Principles and Problems of Economics (5-5).** Pr., sophomore standing. (EC 201 is prerequisite to EC 202.) Hanna, Miller, Steele

An introduction to the principles of economics and analysis of contemporary economic problems and trends. Required of all Economics and Business Administration majors. Credit may not be earned in both EC 200 and EC 201.

- 206. Socio-Economic Foundations of Contemporary America (3).** General elective. Franklin

An appraisal and survey of the social and economic developments which lead to and help toward an understanding of present day American society. Economic and social institutional development is studied against the background of the Industrial Revolution.

- 357. Economic History of Europe (5).** Pr., junior standing. Richardson

A survey course dealing with the economic contributions of the medieval period; mercantilism; laissez-faire; and the developments in agriculture, industry, transportation, trade, and banking to World War II.

358. **Economic History of the United States (5).** Pr., junior standing. Richardson  
The course comprises a study of the development of the economic institutions, growth of industries, regional specialization, and relation of government to business enterprise from the Colonial period to the present.
451. **Intermediate Economic Theory (5).** Pr., EC 202, junior standing. Steele  
The theory of pricing under varying market conditions and distribution of income among the factors of production.
452. **Comparative Economic Systems (5).** Pr., EC 202, junior standing. Ritland  
An analysis of the rival economic doctrines of Capitalism, Socialism, and Communism.
460. **Economic Development of the South (5).** Pr., junior standing and EC 358 or consent of the instructor. Richardson  
In this course the historical approach is used in a study of industries, transportation, banking, etc., in the South. Economic changes are traced and an attempt made to ascertain the fundamental causes that brought them about. Emphasis is given to Alabama's place in the economic picture.
471. **Foreign Trade (5).** EC 202, junior standing. Miller  
This course treats the economic background of foreign trade, various products in foreign trade, balance of trade, financing foreign trade, etc.

### Finance

360. **Money and Banking (5).** Pr., EC 202 or AS 202, junior standing. Hanna, Stalnaker  
The principles of money, credit and banking including consideration of monetary systems, foreign exchange and commercial banking with relation to the Federal Reserve System.
446. **Business Cycles (5).** Pr., EC 202, and junior standing. Bonin  
An analysis of the causation of economic cycles, their measurement and proposed means of control.
462. **Monetary Theory and Policy (5).** Pr., junior standing and EC 360. Staff  
An advanced study of monetary and banking policy. Attention given to government fiscal policies and programs.
463. **Corporation Finance (5).** Pr., EC 202, junior standing. Patton  
This course covers a practical survey of the financial organization and policies of modern business enterprise with special emphasis on the corporation.
464. **Investments (5).** Pr., EC 463, junior standing. Patton  
This is a study of individual investment policies, investment institutions, and types of investments available.
465. **Public Finance (5).** Pr., EC 202, junior standing. Bonin  
A study of the facts and principles of government revenues and disbursements including attention to state and local financial problems.

### General Business

205. **Business Organization & Management (5).** Pr., EC 103. Frisby, Staff  
A brief description of the structure and major functions of business followed by evaluation of the basic managerial techniques as applied in the operation of business enterprises.
321. **Property Insurance (5).** EC 200 or 201 and junior standing. Stalnaker  
The principles, uses and types of insurance with particular emphasis on fire, marine, automobile and casualty lines.
322. **Life Insurance (5).** Pr., EC 200 or 201, junior standing. Stalnaker  
A study of the organization of the life insurance business and of the various types of contracts.
323. **Real Estate (5).** Pr., EC 200 or 201, junior standing. Stalnaker  
The fundamental principles and practices as applied to the purchase, sale, lease, mortgage, title and management of real estate.
340. **Personal Finance (3).** General elective. Pr., junior standing. Staff  
An informative study of plans for managing personal financial problems involving insurance, housing, household budgeting, investments, personal and bank loans, credit and time buying, etc.
341. **Business Law (5).** Pr., EC 200 or EC 201, or AS 202. Cook  
This course covers a study of contracts, torts, courts and partnerships from the standpoint of the average citizen. EC 343 excludes credit for this course.
342. **Business Law (5).** Pr., EC 341. Cook  
Here the legal principles covering sales, agency, insurance, personal property, real property, suretyship and bankruptcy are presented from the standpoint of the layman.

343. **The Law and Contracts (3).** Pr., EC 200 or 201, and junior standing. EC 341 excludes credit for this course. Cook  
An introduction to the historical background of law and legal institutions and a study of the law of contracts as it applies in Commerce and Industry.
402. **American Industries (5).** Pr., EC 200 or 201, and junior standing. Klontz  
An intensive study of selected industries, emphasizing economic factors affecting growth, organization and operation.
404. **Office Management (5).** Pr., EC 205 or ST 302, or consent of instructor, junior standing. Shell, Frisby  
Office organization, equipment, layout, planning, personnel supervision, direction of office activities, executive control.
472. **Economics of Transportation (5).** Pr., EC 200 or 201, junior standing. Holcomb  
This course traces the development of systems of transportation. Rates are studied as they affect agriculture, commerce and industry. Attention is also given to government regulation of transportation agencies.
473. **Traffic Management (5).** Pr., junior standing and EC 472, or permission of instructor. Holcomb  
A course designed to acquaint students with the fundamentals of traffic control work touching upon the various transportation services.
476. **Motor Transportation (5).** Pr., EC 200 or 201, junior standing. Holcomb  
A study of the economics of the motor transportation business with emphasis on freight and passenger carriers and the highway system. Particularly designed for students of business and of civil engineering.
480. **Business Policies and Administration (5).** Pr., EC 202, EC 205, or consent of instructor, junior standing. Erwin  
A study of the formulation and application of policies and programs pertaining to personnel, production, finance, procurement and sales in the business enterprise.

### Geography

102. **Principles of Geography (5).** Not open to juniors or seniors. Bagwell, Dorman  
Basic course in geography. Man and his works in relation to the Earth as a planet, location, climate, land forms, water bodies, minerals, soils, biota.
103. **Economic Geography (5).** Not open to juniors or seniors. Richardson, Dorman  
An elementary, systematic study of distribution and environmental relations of man's principal economic works. Designed primarily for business administration students.
301. **Geo-Political Basis of World Powers (3).** General elective. Pr., junior standing. Richardson  
Deals with the interaction between the natural-physical environment and the international activities of world powers. Emphasis is placed upon the changing geographic and economic patterns in world affairs.
304. **Geography of South America (5).** Pr., junior standing. Bagwell  
A regional survey of economic and social developments, resources and products.
305. **Geography of North America (5).** Pr., junior standing. Bagwell  
Human-use regions, resources, social and economic developments will be studied.
306. **Geography of Europe (5).** Pr., junior standing. Bagwell  
An analysis of the influences of climate, surface features, and natural resources on the distribution of peoples, their industries and routes of trade. Consideration will be given to each country within its regional setting and to the relationship of Europe to the remainder of the world.
307. **Geography of Asia (5).** Pr., junior standing. Bagwell  
A survey of climate, topography, and natural resources and their influence upon the distribution of peoples, their industries and commerce.
308. **Geography of Africa (5).** Pr., junior standing. Dorman, Bagwell  
A study of the principal regions of Africa with particular emphasis on the areas and countries of greater economic and international importance.
405. **Cultural Geography of the World (5).** Pr., senior or graduate standing. Richardson  
A study of the influence of physiographic factors in the social, economic and political development of peoples and states.
407. **World Resources and Their Utilization (5).** Pr., junior standing. Dorman  
The world's principal natural resources are studied primarily from the geographic point of view (location, transportation, topography, water supply, power sources, climate, etc.). Covers the principles of resource appraisal, the changing nature of resource utilization, and resource conservation.

## Marketing

331. **Principles of Marketing (5).** Pr., EC 200 or 201. Dawson, Erwin  
A general but critical survey of the field of marketing covering marketing channels, functions, methods and institutions.
332. **Credits and Collections (5).** Pr., EC 200 or 201, junior standing. Frisby  
This course is a study of the nature and functions of credit, credit investments, credit information, mercantile and installment credit, credit department, organization and management, collection methods, credit insurance, etc.
333. **Salesmanship (5).** Pr., junior standing. Erwin  
A study of the principles and problems in personal selling covering the various steps involved in the selling process. Consideration is also given to the economics of selling and to material useful to salesmen but outside the field of selling techniques.
432. **Advertising (5).** Pr., EC 331, junior standing. Dawson  
A study of the principles and practices involved in advertising. Material covered includes the analysis of the need for advertising, preliminary product and market analyses needed for efficient advertising, planning campaigns, media selection, copy, layout and advertising production.
433. **Retail Store Management (5).** Pr., EC 331, junior standing. Dawson  
A study of the principles and practices involved in the scientific operation of the retail store. Store location, layout, buying, pricing, and merchandise control are considered among other topics.
434. **Purchasing (5).** Pr., EC 331, junior standing. Frisby  
This course deals with the objectives, the control and the direction of industrial purchasing.
435. **Marketing Problems (5).** Pr., EC 331, junior standing. Erwin  
This course deals with marketing problems, policies, costs, channels of distribution, terminal markets, trade barriers and legislation.
436. **Business Research Methods (5).** Pr., EC 331, junior standing. Erwin  
A study of the methods of scientific research in the field of marketing and their application to the solution of marketing problems. Deals with the planning of an investigation, gathering data, tabulation and analysis, editing, interpretation of data, presentation of reports, determination of market potentials and of various types of quotas.
437. **Sales Management (5).** Pr., EC 205, EC 331, junior standing. Erwin  
A study of the principles and practices of sound organization and administration of a sales organization. Includes consideration of: sales department organization, selecting, training, compensating, and supervising salesmen, sales planning, setting up sales territories and quotas and other problems.
438. **Retail Merchandising (5).** Pr., junior standing and EC 433. Dawson  
Deals with the planning, policies, procedures, and techniques necessary to insure a balanced assortment of merchandise consistent with customer demand and profitable operation. Profit computation, pricing, inventory evaluation, stock planning and stock control are among topics covered.

## Personnel Management and Industrial Relations

350. **Labor Problems (5).** Pr., EC 200 or 201, junior standing. Anson, Kincey, Steele  
This is a survey of the problems of the industrial workers from the standpoint of the worker, the employer, and society.
442. **Personnel Management (5).** Pr., EC 205 or IM 306, junior standing. Myles, Prestridge  
A course dealing with the management of labor, touching upon selection, training, placement, turnover, payment policies, employee representation, etc.
444. **Labor Legislation (5).** Pr., EC 350, junior standing. Steele, Kincey  
Analysis of background, content, and significance of industrial relations, wage and hour, and selected social security laws.
445. **Industrial Relations (5).** Pr., EC 200 or 201, junior standing. Anson, Kincey, Steele  
An analysis of legislation, collective bargaining, union-management corporation and economic conditions bearing upon employer-employee relations.
449. **Advanced Personnel Management (5).** Pr., EC 442 or PG 461. Myles, Steele  
This course deals with the solution of selected subjects of problems which confront personnel managers and related supervisory personnel. Specialized problems and subjects such as: maintenance of communications, wages and incentives, morale, merit rating, development and training of leaders, counseling, grievance control and recognition of human factors in industry will be considered.

450. **Job Evaluation and Incentive Systems (5).** Pr., EC 442, senior standing. Myles  
A study of wage and salary policy and administration with special emphasis upon the functioning of job analysis, job evaluation, and methods of providing incentives in industry and business.

### Statistics

345. **Statistics (5).** Lec. 4, Lab. 2. Pr., EC 200 or 201, junior standing. Klontz, Staff  
A study of the methods of collecting, presenting, and analyzing statistical data; tabular and graphic presentations, frequency distribution, time series and statistical inference.
474. **Advanced Statistics (5).** Pr., junior standing and EC 345 or MH 127 and consent of instructor. Klontz  
More advanced methods of statistical analysis including curve fitting; curvilinear, multiple and partial correlation; analysis of variance.

### GRADUATE COURSES (EC)

600. **The National Income and Capital Accumulation (5).** Pr., EC 202 and graduate standing or consent of instructor. Miller  
The course considers the computation of the national income, the uses of income data, interest rates, saving and investment, the monetary and credit system.
601. **Value and Distribution (5).** Pr., EC 202 and graduate standing or consent of instructor. Miller  
This course is an attempt to set forth the positive content and limitations of the modern theories of value, wages, rents, and profits.
605. **Business Survey Techniques (5).** Pr., EC 345 and consent of instructor. Klontz  
The theory and practice of sampling human populations, with special emphasis upon public opinion sampling market research, and other similar surveys. Types of samples, size of sample, practical methods of sampling, reliability of results. Principal sampling methods used by government and business are studied. Class will conduct a complete survey from making out schedule to collecting information and analyzing results.
606. **Management Problems (5).** Pr., EC 480 or permission of instructor. Erwin  
An examination of basic administrative problems in business and industry; attention given to managerial controls as applied to administrative and operative functions.
611. **Advanced Accounting Theory (5).** Pr., EC 312 and graduate standing or consent of instructor. Gritz  
A review of the origin and development of double-entry Accounting; followed by a critical study of the theory of modern Accounting principles and procedures.
614. **Accounting Systems (5).** Gritz
616. **Advanced Auditing (5).** Pr., EC 416 and graduate standing or consent of instructor. Hill  
This course will cover the application of auditing principles and procedures to practical problems encountered in the field of public and private accounting.
617. **Advanced Accounting Problems (5).** Pr., EC 417 and graduate standing or consent of instructor. Hill  
This course is an extension to and a consolidation of all the other advanced accounting courses. Attention will be given to preparation for special accounting examination.
621. **Personnel and Labor Policy (5).** Kinney, Steele  
Seminar analysis and discussion of selected personnel or labor problems, programs and cases.
650. **Economic Seminar (5).** Pr., graduate standing or consent of instructor. Staff  
A course designed for those students engaged in intensive study and analysis of economic problems.
674. **Advanced Statistical Analysis (5).** Pr., EC 474. Klontz  
Further study of analysis of variance; analysis of covariance; introduction to econometrics.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter. Staff

### Secretarial Training (ST)

For listing of courses, see page 306.

### Sociology (SY)

For listing of courses, see page 307.



**Education (ED)***Dean Truman M. Pierce**Administration, Supervision, and Guidance, Head Professor Drewry**Professors Lovell, Pierce, and White**Associate Professors Saunders and Vallery**Assistant Professors Nunnery, Stalcup, and Tincher**Agricultural Education, Head Professor Montgomery**Associate Professors Bottoms, Deloney, Gandy, and Pruett**Elementary Education, Head Professor Dalton**Professor Callaway**Assistant Professors Darnell, Ellisor, and Newell\***Psychology, Head Professor Bills**Professor McIntyre**Associate Professor Barrett-Lennard**Assistant Professors Frederick, Johnson, Kelley, and Mayer**Instructors Sanders\* and Georgia Vallery\***Secondary Education, Head Professor Davis**Professors Atkins, Hall, Holloway, Irvine, Kuderna, Lapp, Scheid, and Punke**Associate Professors Evans and Pickett**Assistant Professors Dorné, Justice, Weaver, and Wilbanks**Instructors Millican and Ottis\****Elementary Education***Head Professor Dalton**Professor Callaway**Assistant Professors Darnell, Ellisor, and Newell*

- 102-3-4. **Orientation: Personal and Professional (1-1-1).** All quarters. Staff  
Description given under Courses for Supporting Programs in Areas of Specialization.
200. **Foundations (6).** Lec. 5, Lab. 3. All quarters. Pr., PG 213-214. Staff  
Description given under Courses for Supporting Programs in Areas of Specialization.
300. **Principles and Practices in Education (6).** Lec. 5, Lab. 3. All quarters. Pr.,  
ED 200 or equivalent, junior standing. Ellisor  
Description given under Courses for Supporting Programs in Areas of Specialization.
329. **Creative and Recreational Expression (6).** Lec. 5, Lab. 3. Pr., ED 300 or con-  
sent of department chairman. Dalton, Justice, Pickett  
An intensive study of the teaching of creative and recreational expression, involving basic  
knowledge and understanding, laboratory demonstrations, and experimental approaches use-  
ful in this development, including such areas as music, art, rhythms, and other play ac-  
tivities, creative dramatics, creative writing and use of learning materials.
370. **Teaching Basic Skills (6).** Lec. 5, Lab. 3. Pr., ED 300 or consent of depart-  
ment chairman. Callaway, Darnell, Newell  
An intensive study of the teaching of language, number, and related skills, emphasizing  
knowledge and understandings, use of appropriate instructional materials, laboratory demon-  
strations, and experimental approaches basic to the development of these skills.
371. **Fundamentals of Reading (4).** Pr., junior standing. Callaway  
An intensive study of the teaching of reading with appropriate attention to books and  
materials.
421. **Developing Understandings of the Natural and Social Environment (6).** Lec. 5,  
Lab. 3. Pr., ED 300 or consent of department chairman. Darnell, Ellisor, Newell  
The development of social understandings and relationships through study of the natural  
and social environment. Attention is given to such areas as social science, natural and  
physical science, health and safety through use of appropriate children's books and other  
instructional materials, laboratory demonstrations and experimental approaches.
480. **Student Teaching in Elementary School (10-15).** Pr., senior standing. Staff  
Actual teaching experiences in an off-campus situation except for experienced teachers en-  
rolled in the summer workshop.
490. **Evaluation in Education (3).** Lec. 2, Lab. 3. All quarters. Pr., student teach-  
ing or consent of departmental chairman. Staff  
Description given under Courses for Supporting Programs in Areas of Specialization.

\* Temporary.

## Advanced Undergraduate and Graduate

471. Remedial Procedures in Reading (5). Pr., junior standing. Callaway  
This course aims to produce skilled workers in the remedial aspects of reading. Emphasis will be placed on the diagnosis of reading disabilities and appropriate individual and group techniques for correcting deficiencies discovered.
472. Books and Related Materials for Children (4). Pr., junior standing. Dalton, Ellisor  
Description given under Courses in Library Service.
496. Music in the Elementary School (5). Pr., junior standing. Justice  
To give the individual teacher a deeper insight into skills, techniques, and knowledge of music. Appropriate materials, adapted to social and musical interests of children, are studied and evaluated.

## Secondary Education

Head Professor Davis

Professors Atkins, Hall, Hollaway, Irvine, Kuderna, Lapp, Scheid, and Punke

Associate Professors Evans and Pickett

Assistant Professors Dorné, Justice, Weaver, and Wilbanks

Instructors Millican and Ottis

## Undergraduate

For description of the following courses see under Courses for Supporting Programs in Areas of Specialization.

- 102-3-4. Orientation: Personal and Professional (1-1-1). All quarters. Staff
200. Foundations (6). Lec. 5, Lab. 3. All quarters. Pr., PG 213-214. Staff
300. Principles and Practices in Education (6). Lec. 5, Lab. 3. All quarters. Pr., ED 200 or equivalent, junior standing. Staff
429. Problems of Health Education and Health Observation of School Children (5). Pr., junior standing. Evans, Lapp, Pickett
453. Science and Modern Living (5). Pr., sophomore standing. Atkins, Kuderna
473. General Science for Teachers (5). Lec. 4, Lab. 2. Pr., junior standing. Atkins, Kuderna, Newell
490. Evaluation in Education (3). Lec. 2, Lab. 3. All quarters. Pr., student teaching or consent of departmental chairman. Staff  
Description given under Courses for Supporting Programs in Areas of Specialization.
494. Organization of Instrumental Music (4). Pr., ED 414. Justice  
Theory and practice in the organization and administration of instrumental music in public schools.
495. Organization of Choral Music (4). Pr., ED 414. Justice  
Theory and practice in the organization and administration of choral music in public schools.
497. Organization of Elementary School Music (4). Pr., ED 423. Justice  
Theory and development of the music program in the elementary school.

## Courses in Teaching in the Respective Areas of the Secondary School

These courses provide for examination, application, and scientific evaluation of methods, techniques, and procedures used in the different areas of the secondary school program. These will include such activities as resource unit preparation, observation and participation in actual classroom situations, and opportunities for actual participation in using different teaching techniques and procedures.

All students will take one course in Teaching in the major and one in the minor.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different areas represented in the class.

405. Teaching in Secondary School (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200, or equivalent; Pr. or coreq., ED 300 or equivalent. Hall  
(A) Business Education (Fall) Ottis  
(B) Foreign Languages (Fall)

- |   |               |
|---|---------------|
| (C) Language Arts (Fall, Spring)          | Scheid        |
| (D) Mathematics (Fall)                    | Kuderna       |
| (E) Science (Fall)                        | Atkins        |
| (F) Social Science (Fall, Winter, Spring) | Punke, Weaver |
407. Teaching Home Economics Education (5). Lec. 4, Lab. 2. Fall, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr., or coreq., ED 300 or equivalent. Wilbanks

Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.

### Courses on Program in the Respective Areas of the Secondary School

These courses provide for making an analysis of the function and purpose of appropriate subject matter in the secondary school curriculum including an examination of basic philosophical assumptions and principles which form the basis for the selection and organization of curriculum content in the respective fields.

All students will take one course in Program in the major and one in the minor. During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

410. Program in Secondary School (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr., or coreq., ED 300 or equivalent.
- |   |               |
|---|---------------|
| (A) Business Education (Spring)           | Hall          |
| (B) Foreign Language (to be arranged)     | Ottis         |
| (C) Language Arts (Winter, Spring)        | Scheid        |
| (D) Mathematics (Spring)                  | Kuderna       |
| (E) Science (Spring)                      | Atkins        |
| (F) Social Science (Fall, Winter, Spring) | Punke, Weaver |
412. Program in Home Economics Education (4). Lec. 3, Lab. 2. Fall, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr., or coreq., ED 300 or equivalent. Wilbanks

Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.

### Student Teaching in the Secondary School

These courses provide the student an opportunity to live in a community and receive first-hand experiences in teaching. The experiences include personal and professional contacts with the different aspects of community life and making application of concepts, skills, and knowledge of classroom situations.

The courses are organized on the lecture-laboratory basis. Students spend approximately one to two weeks in a lecture situation on the campus before reporting to their student teaching assignment. Eight to nine weeks are spent living in a community and working in the school. Upon completion of the off-campus experience, students return to the campus for one to two weeks for lectures, discussions, and evaluation. The student should have completed a large part of the work in both the major and minor areas of specialization prior to taking Student Teaching.

During the summer quarter these courses will be open only to experienced teachers and special students enrolled for the quarter and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class. Observation and practice experiences will be provided in keeping with individual and group needs.

413. Student Teaching in Secondary School (10 or 15). Fall, Winter, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; ED 300 or equivalent, two courses on Teaching and Program in the Secondary School, and junior or senior standing.
- |                              |          |
|------------------------------|----------|
| (A) Business Education       | Hall     |
| (B) Foreign Languages        | Scheid   |
| (C) Home Economics Education | Robinson |
| (D) Language Arts            | Scheid   |

- (E) Mathematics  
(F) Science  
(G) Social Science

Kuderna  
Atkins  
Weaver

### Advanced Undergraduate and Graduate

409. **Advanced Hygiene (5).** Pr., junior standing. Staff  
Principles and concepts basic to the improvement of individual and group living and the role of the home, school, and community in the development of sound physical and mental health.

### Graduate

619. **Scientific Principles Applied to Physical Education and Athletics (5).** Pr., Undergraduate major or minor in health and physical education. Lapp, Pickett  
Specific application of physics, physiology, and psychology to the development of physical skills and related topics including reaction time, motivation, maturation, illusions, morale, and problems of group social living in physical education and athletics.
- 640-641. **Advanced Study of High School General Science (5-5).** Pr., ED 473, Atkins  
Intensive study of selected topics from the area of the high school general science program.
669. **Physiology of Exercise (5).** Pr., Undergraduate major or minor in health and physical education. Lapp, Pickett  
A study of experiences in the physiology of muscular activity and application of these to physical education and athletic situations.

### Courses For Supporting Programs In Areas Of Specialization In Elementary, Secondary, And Agricultural Education

#### Undergraduate

101. **Orientation: Personal and Professional (3).** Staff  
Designed to help transfers from other curricula and students enrolled in other schools achieve optimum personal, social and intellectual development as college students and to assist them in understanding teaching as a profession. (Credit in ED 101 excludes credit in ED 102-3-4.)
- 102-3-4. **Orientation: Personal and Professional (1-1-1).** Staff  
Designed to help freshmen achieve optimum personal, social, and intellectual development as college students and to assist them in planning professional careers. (Credit in ED 102-3-4 excludes credit in ED 101.)
200. **Foundations (6).** Lec. 5, Lab. 3. Pr., PG 213, and 214. All quarters. Staff  
An analysis of basic information pertaining to philosophical, psychological, sociological and historical foundations, with emphasis on the relationship of these areas to human interaction and the public school. Lectures, discussion techniques, demonstrations, and laboratory procedures.
201. **Education (2).** Courses designed to help prospective teachers in the guidance of students.  
(A) Exceptional Children, (B) Communication Problems, (C) Materials of Instruction, (D) Art Expression, (E) Music Experiences, (F) Measurement in Physical Education, (G) Improvement in Reading.
- 201L. **Education (1).** Lab. 2.  
Laboratory courses may be taken concurrently with the corresponding lecture courses or independent of the lecture.
300. **Principles and Practices in Education (6).** Lec. 5, Lab. 3. Pr., PG 213, and 214; ED 200, or equivalent. Staff  
Purposes, principles, and practices of elementary and secondary education.
420. **Educational Sociology (5).** Pr., PG 212. Irvine  
Social environment in relation to the school and the child's responses to it; nature of society and function of the school therein; learner and the learning process; value and shortages of present school curriculums.
429. **Problems of Health Education and Health Observation of School Children (5).** Pr., junior standing. Evans, Lapp, Pickett  
Designed to help the teacher with the details of health observation and to aid in health guidance of individual pupils as well as to acquaint the teacher with the health services available through local and state departments.
453. **Science and Modern Living (5).** Pr., sophomore standing. Atkins, Kuderna  
An interpretive course stressing the relationship of science to problems of personal and social living in modern technological society. The critical role of science in democracy.

473. General Science for Teachers (5). Lec. 4, Lab. 2. Pr., junior standing. Atkins, Kuderna, Newell  
Intended to give the teacher essential knowledge of such fields as earth science, meteorology, astronomy, nuclear energy, which constitute significant aspects of the general science program.
478. Nature of Mental Retardation (5). Pr., junior standing and ED 300. Dorné  
Includes a study of the characteristics and nature of mental retardation. Etiology, identification, and classification of retardation are investigated. Social, psychological, physical, and educational implications of mental retardation are considered.
490. Evaluation in Education (3). Lec. 2, Lab. 3. All quarters. Pr., student teaching or consent of departmental chairman. Staff  
Examination of theories and techniques of testing and measurement, interpretation of educational statistics, self-evaluation and pupil accounting. Also, analysis and evaluation of social and educational problems affecting the total school program.

### Advanced Undergraduate and Graduate

471. Remedial Procedures in Reading (5). Callaway  
Description given under courses in Elementary Education.
472. Books and Related Materials for Children (4). Dalton, Ellisor  
Description given under courses in Elementary Education.
476. The Exceptional Child (5). Pr., senior standing and consent of instructor. Dorné  
An introductory course that deals with the etiology, incidence, diagnosis and philosophy of teaching the exceptional child. Special attention is given to the child who is physically or mentally handicapped and to the child who is mentally superior.
482. Organization and Administration of School Libraries (5). Pr., junior standing. Staff  
Description given under courses in Library Science.
484. Classification and Cataloging of Library Materials (5). Pr., junior standing. Staff  
Description given under courses in Library Science.
- AD 485. Audio-Visual Materials (5). Lec. 4, Lab. 2. Pr., junior standing. Deloney  
Description given under courses in Agricultural Education.
486. Books and Related Materials for Young People (5). Pr., junior standing. Staff  
Description given under courses in Library Science.
494. Organization of Instrumental Music (4). Pr., ED 414. Justice  
Theory and practice in the organization and administration of instrumental music in public schools.
495. Organization of Choral Music (4). Pr., ED 414.  
Theory and practice in the organization and administration of choral music in public schools.
496. Music in the Elementary School (5). Pr., junior standing. Justice  
Description given under courses in Elementary Education.
497. Organization of Elementary School Music (4). Pr., ED 423.  
Theory and development of the music program in the elementary school.

### Undergraduate Courses In The Twelve-Grade Program In Teaching, Program, And Student Teaching In Elementary, Secondary, And Agricultural Education

#### Courses in Teaching for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide for examination, application, and scientific evaluation of methods, techniques, and procedures used in the different areas of the elementary and secondary school program. These will include such activities as resource unit preparation, observation and participation in actual classroom situations, and opportunities for actual participation in using different teaching techniques and procedures.

Students enrolled in Elementary Education whose program of study calls for a minimum of twenty-seven quarter hours of academic work in Art, Industrial Arts, Speech, Health and Physical Education, Music, Dramatic Arts, or Speech Therapy will take the course in Teaching in the area in which the academic work was completed. Students enrolled in Secondary Education are required to take one course in Teaching in both the major and minor areas.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be con-

ducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

414. Teaching in Elementary and Secondary Schools (3). Lec. 2, Lab. 4. Pr., 9 hours Psychology, ED 200 or equivalent; Pr., or coreq., ED 300 or equivalent.

(A) Art (Fall, Teaching or Program, Winter)	Young
(B) Dramatic Arts (Fall, Teaching or Program, Winter)	Young
(C) Health and Physical Education (Winter, Spring)	Lapp, Pickett
(D) Industrial Arts (Fall)	Bottoms
(E) Music (Fall, Teaching or Program, Winter)	Justice
(F) Speech (Fall)	Dorné
(G) Speech Correction (Fall)	Dorné
(H) Mental Retardation (Fall)	Dorné

(Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.)

#### Courses in Program for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide for making an analysis of the function and purpose of appropriate subject matter in the curriculum including an examination of basic philosophical assumptions and principles which form the basis for the selection and organization of curriculum content in the respective fields.

Students enrolled in Elementary Education whose program of study calls for a minimum of twenty-seven quarter hours of academic work in Art, Industrial Arts, Speech, Health and Physical Education, Music, Dramatic Arts, or Speech Therapy will take the course in Program in the area in which the academic work was completed. Students enrolled in Secondary Education are required to take one course in Program in both the major and minor field.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

423. Program in Elementary and Secondary Schools (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr., or coreq., ED 300 or equivalent.

(A) Art (Spring, Program or Teaching, Winter)	Young
(B) Dramatic Arts (Spring, Program or Teaching, Winter)	Young
(C) Health and Physical Education (Fall, Spring)	Lapp, Pickett
(D) Industrial Arts (Spring)	Bottoms
(E) Music (Spring, Program or Teaching, Winter)	Justice
(F) Speech (Winter)	Dorné
(G) Speech Correction (Winter)	Dorné
(H) Mental Retardation (Fall)	Dorné

(Teaching and Program courses will be taught on unified basis as experience and scheduling permit.)

#### Student Teaching for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide the student an opportunity to live in a community and receive first-hand experience in teaching. The experiences include personal and professional contacts with the different aspects of community life and making application of concepts, skills, and knowledge of classroom situations.

The courses are organized on the lecture-laboratory basis. Students spend approximately one to two weeks in a lecture situation on the campus before reporting to their student teaching assignment. Eight to nine weeks are spent living in a community and working in the school. Upon completion of the off-campus experience, students return to the campus for one to two weeks for lectures, discussions, and evaluation.

All students participating in student teaching on a total school program basis are required to engage in student teaching and observation at both the elementary



and the secondary level. The student should have completed a large part of the work in both the major and minor areas of specialization before doing student teaching.

During the summer quarter these courses will be open only to experienced teachers and special students enrolled for the quarter will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class. Observation and practice experiences will be provided in keeping with individual and group needs.

425. Student Training in Elementary and Secondary Schools. Twelve Grades (10 or 15). Lec. 5, Lab. 20. Pr., 9 hours of Psychology, ED 200 or equivalent; ED 300 or equivalent, two courses in Teaching and Program, and junior or senior standing.

(A) Art	Young
(B) Dramatic Arts	Young
(C) Health and Physical Education	Lapp, Pickett
(D) Industrial Arts	Bottoms
(E) Music	Justice
(F) Speech	Dorné
(G) Speech Correction	Dorné
(H) Mental Retardation	Dorné

### Courses In Library Science Serviced By Departments Of Agricultural, Elementary, And Secondary Education

#### Advanced Undergraduate and Graduate

472. Books and Related Materials for Children (4).  
Examination and evaluation of printed and other types of materials in view of their relevance to the needs and interests of various age and grade levels of elementary school children. Study of selection aids, principles, and criteria for selecting materials.
482. Organization and Administration of School Libraries (5). Pr., junior standing, Staff  
Basic organization of books, non-book materials, and services for effective use in school libraries. Administering the budget, selection and purchase of materials, preparation of materials for use, circulation of materials, inventory, care and repair of materials, and instruction in the use of library materials are considered.
484. Classification and Cataloging of School Library Materials (5). Pr., junior standing, Staff  
Principles and procedures of classifying and cataloging books and other printed materials, filmstrips, recordings, and community resources. The vertical file, the Dewey decimal system of classification, Wilson and Library of Congress printed cards, and subject headings are studied.
- AD 485. Audio-Visual Materials (5). Lec. 4, Lab. 2. Winter, Summer. Pr., junior standing, Deloney, Gandy  
Description given under courses in Agricultural Education.
486. Books and Related Materials for Young People (5). Pr., junior standing. Staff  
Study and evaluation of books and other types of materials in relation to the interests, needs, and abilities of young people of high school age. Attention is given to selection aids, principles and criteria of selection, reading guidance, and significant investigations concerning young people's reading.
487. Practicum in School Library Services (4-6). Lec. 2, Lab. 4-8. Pr., junior standing.  
The lectures in this course provide students with information pertaining to methods used in the operation of libraries in elementary and secondary schools. Supervised laboratory experiences are provided in materials centers containing a variety of materials for the different grade levels and involving children and youth of varying ages in the public school.

#### Graduate

- AD 609. Selecting, Creation, and Use of Audio-Visual Materials (5). Lec. 3, Lab. 4. Pr., AD 485 or consent of instructor. Winter, Summer. Deloney, Gandy  
Description given under courses in Agricultural Education.
610. Reference Materials and Service (5). Pr., 10 hours in library service at the 400 level, Staff  
Study and evaluation of basic reference sources for effective reference service in school libraries. Elementary research methods of locating information and the role of various types of reference books as resource material in curricular units are considered.

611. **Principles of School Librarianship (5).** Pr., 10 hours in school library service at the 400 level. Staff  
Place and function of library service in the American educational system. Historical development of libraries; library services to teachers and pupils as an integral part of the school program; standards and administrative policies are included.
612. **Problems in the Administration of the School Library Services (5).** Pr., 10 hours in school library service at the 400 level. Staff  
Opportunities for study and research regarding current problems in relation to developing an effective program of school library service. Administrative plans, procedures and relationships; room and equipment planning; library regulations, personnel and committees; reading guidance and reference service; publicity, statistics, and reports; and operation, evaluation, and supervision of library services are potential areas of emphasis.
613. **Library Services in the School and Community (5).** Pr., 10 hours in library service at the 400 level. Staff  
School library-community relations; historical background, current trends, problems and programs of service; relation to public and rural library extension service; selection of materials on the basis of community and curriculum needs; book lists and exhibits.

### Graduate Courses In Foundations And Philosophy In Agricultural, Elementary, And Secondary Education

- AD 601. **Social Foundations of Education (5).** Winter, Summer. Montgomery  
Description given under courses in Agricultural Education.
- AD 604. **Adult Education (5).** Summer, Winter. Fruett  
Description given under courses in Agricultural Education.
635. **Education in Modern Society (5).** Callaway, Punke  
The universal and continuing need for education, various opportunities for learning, the public school and its role for the individual and society, educational purpose and its sources, significance for the curriculum, teaching, learning, and leadership.
636. **Philosophy of Education in America (5).** Pr., ED 635. Callaway, Punke  
Major American contributions to the philosophy of education and their influence on educational practice. Need for re-examining concepts in the light of recent scientific and cultural developments.
637. **Development and Status of Educational Philosophy (5).** Pr., ED 635. Punke  
Social and historical development of philosophical thought regarding education, with emphasis on its implications for the Western World. Major philosophical problems facing education today, in the light of the development noted.
639. **Comparative Education (5).** Pr., ED 635. Punke  
Comparison of the educational systems of leading foreign nations and the United States, giving attention to the historic origins of the different systems and to their present sociological and philosophical significance.

### Graduate Courses In Curriculum And Teaching In Elementary And Secondary Education

#### Curriculum and Teaching in the Total School Program

These courses are designed to assist teachers, supervisors, guidance personnel, and administrators in developing understandings and competencies essential to total school improvement with attention given to all levels of the school program.

645. **Current Problems in Education (5).** Pr., Teaching experience. Staff  
Emphasis is given to instructional problems of the classroom teacher, and problems associated with administering and supervising the total school program.
646. **Studies in Education (1-3).** Pr., One quarter of graduate study. Staff  
Study of a problem using research techniques. The problem will be selected in consultation with the professor who will supervise it. A problem should be selected which will contribute to the program of the student. (Credit in ED 651 prior to 1960 excludes credit in this course.)
647. **Foundations in Curriculum and Teaching (5).** Ellisor, Hollaway  
Historic sources of curriculum and teaching materials reviewed in the light of recent investigations and curricular experiments; conflicting conceptions of the nature of the curriculum and the sociological implications of these conflicts; methods of curricular reorganization in elementary and secondary schools.
648. **Advanced Study of Curriculum and Teaching (5).** Pr., ED 647 or consent of departmental chairman. Ellisor, Hollaway  
Major issues, frontier developments, and trends in the improvement of curriculum and teaching in elementary and secondary schools.

649. Educational Trends and the Basic Skills (5). Primarily for elementary and junior high school teachers. **Dalton, Callaway**  
A critical study and evaluation of recent developments in the elementary and junior high school with implications for teaching the basic skills.

650. Teaching the Mentally Retarded (5). Corequisite, ED 476.  
Provides for observation and participation under supervision in educational programs for the mentally retarded. Lectures and discussions will implement the student's work in the classroom. Students will develop and evaluate plans and programs for the special class. (For teachers pursuing a program of education for mentally retarded children.)

### Curriculum and Teaching in the Respective Areas of the School Program

Each of the courses listed below may be used for each area of the school program. The areas include: (A) Art, (B) Business Education, (C) Dramatic Arts, (D) Foreign Languages, (E) Health and Physical Education, (F) Home Economics Education, (G) Industrial Arts, (H) Language Arts, (I) Mathematics, (J) Mental Retardation, (K) Music, (L) Science, (M) Social Science, (N) Speech, and (O) Speech Correction.

651. Research Studies in Education in Areas of Specialization (5). Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. **Staff**  
Review, analysis, and interpretation of available research with emphasis on designing new research to meet the changing needs of the school. (Subject areas A-O.)
652. Curriculum and Teaching in Areas of Specialization (5). Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. **Staff**  
A critical study of teaching practices and reappraisal of selecting experiences and content for curriculum improvement. (Subject areas A-O.)
653. Organization of Program in Areas of Specialization (2-5). Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. **Staff**  
Advanced course devoted to a study of program, organization, and development of basic and supplementary materials for guiding teachers, faculties, and school systems in the continuous improvement of curriculum and teaching practices. (Subject areas A-O.)
654. Evaluation of Program in Areas of Specialization (2-5). Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. **Staff**  
Evaluation and investigation of teaching effectiveness with attention also given to the utilization of human and material resources and the coordination of areas of specialization with the total school program and with other educational programs of the community. (Subject areas A-O.)

### Curriculum and Teaching with Concentration in the Area of Reading

These courses constitute an area of specialization in the field of reading. ED 471 listed as a prerequisite for ED 656 is designed for the classroom teacher and supervisory personnel. ED 655 may be taken by the classroom teacher and supervisory personnel. ED 656 will be taken only by persons interested in developing an area of specialization appropriate for consultative and supervisory services.

655. Problems in Improvement of Reading (5). **Callaway**  
An examination of techniques of effective reading instruction in developmental reading from grades one through twelve. Emphasis on techniques, comprehension, study skills, vocabulary, and other related areas in the reading program and in the content areas.
656. Directed Individual Study in Reading Diagnosis and Reading Remediation (5-10). Pr., ED 471, or consent of departmental chairman. **Callaway**  
Clinical experiences in diagnosing problems in reading and related areas. Also clinical experiences in the remediation of reading problems.

### Curriculum and Teaching for Advanced Students

These courses are designed to provide opportunity for advanced students to participate in study planning, and field experiences associated with research and experimentation in curriculum and teaching.

658. Seminar and Independent Study in Curriculum and Teaching (5). Pr., ED 647 and 648. **Staff**  
Research and experimentation in elementary and secondary schools in the development of education programs and the improvement of teaching and learning. Appraisal of significant curriculum research, exploration of areas of needed research in curriculum and instruction, and study of fundamental criteria and methods for solving curriculum problems.

**659-660. Laboratory Experience in Curriculum and Teaching (5-5). Pr., Master's Degree in Education** Staff

These courses provide for doctoral students to work in actual school situations on problems in curriculum and teaching under staff guidance.

**Graduate Course In Higher Education In  
Elementary And Secondary Education**

- 663. The American College and University (5).** Hall, Punke, Frymier  
Philosophy and function, the university and social change, the community college, academic freedom, student-faculty-community relationships, international flow of educational ideas, government cultural programs, higher education and the state.

**Graduate Courses In Administration, Supervision, And Guidance**

*Head Professor Drewry  
Professors Lovell, Pierce, and White  
Associate Professors Saunders and Vallery  
Assistant Professors Nunnery, Stalcup, and Tincher*

Prerequisites and corequisites in the Department of Administration, Supervision, and Guidance are: experience in teaching; employment or definite professional objectives leading to employment in administration, supervision, or guidance; ED 681, 670 or 621, or equivalent, as prerequisite or corequisite to advanced courses in any one of these specialized areas; and AD 601, PG 617, ED 645 and ED 661, or equivalent, as prerequisite or corequisite to specialized study in administration, supervision, or guidance.

- 618. Organization and Administration of Higher Education (5).** Drewry, Pierce  
A course designed to provide a study of the organization, administration, and evaluation of institutions in terms of the academic program, student personnel services, business affairs and related programs.

- 621. Guidance in the Public Schools (5).** Nunnery  
A basic course in guidance for superintendents, principals, teachers and other guidance personnel. Among topics covered are: philosophy and principles of guidance, function and services, organizational procedures, administration and evaluation; the role of teachers, administrators and guidance staff.

- 627. Problems in Guidance (5).** Nunnery, Tincher  
A course designed to provide opportunities for guidance personnel to apply the scientific method to the solution of problems arising from their experiences in public schools.

- 628. Counseling in the Public Schools (5).** Tincher  
A course designed to assist teachers and other guidance personnel in acquiring knowledge, understanding and skill regarding counseling as a helping relationship. Emphasis is given to counseling in the classroom and the information and skills appropriate to counseling.

- 632. Organization and Administration of Guidance Programs (5).** Nunnery, Tincher  
A course designed for administrative and guidance personnel. Its primary purpose is to identify the major functions of education, perceive guidance in this perspective and then to study the organization, administration and evaluation of guidance programs in their educational setting. Topics discussed include principles of administrative practice, role of staff in regard to the guidance program, organizational patterns for guidance programs, possible ways of initiating a guidance program, and means of evaluation.

- 633. Analysis of the Individual (5).** Nunnery, Tincher  
The purpose of this course is to assist teachers and other guidance personnel in acquiring knowledge, understanding and skill necessary to obtain records and appraise information about the pupil as an individual and as a member of a group. Attention is given to the use of standardized test data; however, primary emphasis is placed on other tools and techniques for securing and analyzing information about pupils and their use in counseling.

- 638. Information Service in the Guidance Program (5).** Tincher  
The purpose of this course is to assist guidance personnel in acquiring knowledge, understanding and skill relative to collecting, evaluating and interpreting occupational, educational, and related information for guidance purposes. Emphasis is placed on the value and necessity of work, educational and occupational opportunities, results of recent educational and occupational research, methods of studying occupations, community occupational and educational surveys; orientation for educational and occupational purposes, and maintaining and using occupational and educational information in counseling.

- 670. Supervision of the Instructional Program (5).** Lovell  
A course designed to assist superintendents, supervisors, principals, teachers, and other educational leaders in understanding the meaning, purpose and function of supervision, and

in understanding the basic factors involved in the improvement of teaching and in understanding and evaluating the various concepts of educational leadership as they apply to the improvement of teaching effectiveness.

681. **Organization and Administration of Public Education (5).** Drewry, Saunders  
An introductory course designed for superintendents, principals, teachers, and other educational leaders. Topics covered include: purposes of organization and administration; organization and administration on federal, state, and local levels; financial support and accounting; operation of plant; school-community interaction; and personnel administration.
683. **The Leadership Role in Educational Administration (5).** Lovell, Stalcup  
A study of current theories, concepts and principles of leadership and their application to education. Further emphasis is placed on the responsibility of the educational administrator for leadership in the school and community; responsibility for leadership in the continuous improvement of staff competence and principles and evaluation of effective leadership.
685. **Current Trends in Organizing and Administering Public Education (5).** Nunnery, Saunders  
A study of current theories, concepts and principles of organization and administration and their application to public education, the relationships of organization and administration to instructional programs; the role and function of governing and regulatory boards and agencies, and an analysis of current problems and issues in organization and administration.
688. **School Finance and Business Administration (5).** Nunnery, White  
A study of the relationships of finance and business management to the quality of education. Emphasis is also placed on theories and principles of school support including responsibility of federal, state and local agencies; state foundation programs, preparation, and administration of salary schedules, budgeting and business administration including purchasing and accounting insurance and bonding.
689. **Planning and Maintenance of School Buildings (5).** White  
A study of the relationships of plant and plant maintenance to the quality of education; an analysis of population growth and distribution as related to building needs; selection of sites, finance programs, problems of building utilization, evaluation, equipment, maintenance and custodial services.
690. **Administering Auxiliary Services in the Public Schools (5).** White  
A study of the purposes and role of auxiliary school services. Special attention is given to the administration of transportation, school lunch, safety, health and medical problems.
692. **Constitutional, Statutory and Judicial Foundations of Education (5).** Drewry, White  
A study of the constitutional and statutory provisions for education and an analysis of judicial decisions affecting education. Among other topics included are: authority and responsibility of the teacher; rights, privileges and responsibilities of students; use of school property; taxation, curriculum, contracts and retirement provisions; contractual capacity and liability, and transportation.
693. **Personnel Administration (5).** Nunnery, Stalcup  
A course designed to assist superintendents, supervisors, principals, and other educational leaders in acquiring knowledge and developing understandings with respect to the relationships between effective personnel administration and the quality of education. Emphasis is placed on outcomes of recent research and experimentation in areas such as morale, welfare, work loads, pupil accounting, and bases for salary determination as they relate to staff and pupil personnel.

### Graduate Courses In Research, Statistics, Thesis, And Dissertation In Administration, Supervision, And Guidance; Agricultural; Elementary; And Secondary Education

661. **Research and Experimentation in Education (5).** Staff  
Need for the continuous improvement of education through sound solutions to educational problems. The scientific method and its significance for improving education. Methodology in educational research and experimentation.
672. **Statistical Methods in Education (5).** Staff  
The need and importance of applying statistical methods to the study of educational problems, statistical methods appropriate to education, and interpretation of meanings of statistical analyses.
673. **Research and Experimental Design (5).** Pr., ED 672. Staff  
Relationship of design to validity; significance of variables, testing hypotheses, evaluation of research and research findings.
699. **Thesis Research (5).** May extend beyond one quarter. Staff
798. **Research and Thesis (5).** Staff
799. **Doctoral Research and Dissertation (Credit to be arranged).** Staff



**Electrical Engineering (EE)**

*Professors Spann, Carlovitz, Honnell, and Weaver*

*Associate Professors Chadwick, Nichols, Russell, Sprague, Sturrock, and Summer*

*Assistant Professors Feaster, Miller, Phillips, and Slagh*

*Instructors Green, Golden, Hanley, Littleton, McKay, Noneaker, and Whitt*

202. **Electric and Magnetic Circuits I (5).** Pr., MH 262 and Coreq., PS 203.  
Ohm's and Kirchhoff's Laws; properties of conductors; magnetic circuits and fields; induced E.M.F.; the dielectric circuits.
203. **Electric and Magnetic Circuits II (5).** Pr., EE 202, MH 263.  
Electric and magnetic fields and circuits.
304. **Electric Circuits (5).** Pr., MH 252 or 263 and PS 203 or 206.  
Basic electrical circuits; electric energy rates; characteristics of electrical machinery. For non-electrical engineering students.
305. **Electronics and Machinery (5).** Pr., EE 202.  
Basic electrical and electronic circuits; characteristics of electrical machinery.
307. **Illuminating Engineering (5).** Pr., junior standing.  
The general principles of illumination and photometry.
309. **Direct Current Machinery (5).** Pr., EE 332 and junior standing.  
A detailed study of direct current generators, motors, and control apparatus.
310. **Direct Current Laboratory (1).** Lab. 3. Corequisite, EE 309.  
A laboratory study of the principles discussed in EE 309.
312. **Alternating Current Laboratory I (1).** Lab. 3. Corequisite, EE 331.  
Experiments on circuits studied in EE 331.
316. **Electrical Measurements (3).** Lec. 2, Lab. 3. Pr., EE 331 and MH 264.  
Precision measurements of electrical quantities; instrument errors; polyphase power measurements; group resistance; circuit protective devices.
320. **Electronics (5).** Pr., EE 331 and Coreq., EE 321 and junior standing.  
Vacuum tube characteristics; gaseous tube characteristics; vacuum and gaseous control circuits applied to industrial problems; rectification circuits; transistors.
321. **Electronics Laboratory (1).** Lab. 3. Corequisite, EE 320.  
A laboratory course to illustrate the subjects discussed in EE 320.
331. **Circuit Analysis I (5).** Pr., EE 203 and MH 264 and junior standing.  
AC circuit analysis; vector representation; network theorems; Fourier series and Fourier integral analysis.
332. **Circuit Analysis II (5).** Pr., EE 331, MH 361 and junior standing.  
Transient and complex plane frequency analysis; Laplace Transformation; coupled circuits.
333. **Circuit Analysis III (5).** Pr., EE 332, MH 402 and junior standing.  
Networks and filters; balanced and unbalanced polyphase circuits.
340. **Communications Engineering I (5).** Pr., EE 332 and EE 320.  
Analysis of electron-tube circuits, tuned and untuned, with an introduction to pulse circuit techniques.
341. **Communications Engineering Laboratory I (1).** Lab. 3. Corequisite, EE 340.  
Experiments on circuits studied in EE 340.
402. **Alternating Current Machinery I (5).** Pr., EE 332 and junior standing.  
Transformers, induction motors, and other apparatus.
403. **Alternating Current Laboratory II (1).** Lab. 3. Pr., junior standing. Coreq., EE 402.  
Laboratory exercises to study transformers, induction motors, transmission lines, voltage regulators, and symmetrical components.
404. **Telephone Engineering (5).** Lec. 4, Lab. 3. Pr., EE 331 and junior standing.  
Telephone circuits and equipment with suitable laboratory experiments.
405. **Electric Power Systems (5).** Pr., EE 402 and junior standing.  
A general study of generating stations and substations; stability of power systems.
406. **Symmetrical Components (5).** Pr., EE 333 and junior standing.  
The solution of unbalanced polyphase circuits or balanced circuits with unbalanced terminal voltages.
408. **Advanced Alternating Current Circuits (5).** Pr., EE 332 and MH 402 and junior standing.  
Network theorems and analysis, filters, non-linear circuits, and electro-mechanical analogies.
410. **Power Transmission Lines (5).** Pr., EE 333, MH 402 and junior standing.  
A general discussion of power transmission lines.



413. **Alternating Current Machinery II (5).** Pr., EE 333 and junior standing.  
Alternating current generators and synchronous motors.
414. **Alternating Current Laboratory III (2).** Lec. 1, Lab. 3. Pr., junior standing; Coreq., EE 413.  
Laboratory exercises to study characteristics of alternators, synchronous motors, their controls and system operation.
430. **Radio Transmission Lines (5).** Pr., EE 332, MH 402, and junior standing.  
Theory of high frequency transmission lines and filters.
431. **Antenna Systems (5).** Pr., EE 430, EE 450 and junior standing.  
Impedance matching, theory of antennas, radio wave propagation.
433. **Frequency Modulation (5).** Pr., EE 448, MH 361 and junior standing.  
Frequency modulation transmitters and receivers.
438. **Advanced Ultra-High Frequency Circuits (5).** Lec. 4, Lab. 3. Pr., EE 450, EE 430 and junior standing.  
Ultra-high frequency oscillators, slotted lines, horn reflectors; the klystron and magnetron.
439. **Electric Waves (5).** Pr., EE 448, MH 402 and junior standing.  
Advanced mathematical analysis of electric and magnetic fields.
440. **Television Engineering (5).** Pr., EE 448 and junior standing.  
Cathode ray tubes and circuits; wide-band amplifiers; television receivers and transmitters; color television.
441. **Radio Frequency Measurements (3).** Lec. 2, Lab. 3. Pr., junior standing; Coreq., EE 448.  
Measurement of circuit constants at radio frequencies; frequency, antenna, and field strength measurements; voltage, current, and power at radio frequencies.
442. **Industrial Electronics and Control Circuits (5).** Lec. 4, Lab. 3. Pr., EE 320 and junior standing; Coreq., EE 333.  
Electrical circuits for industrial applications; methods for automatic control and regulation with an introduction to principles and analysis of servomechanisms.
443. **Transistor Electronics (5).** Lec. 4, Lab. 3. Pr., EE 448, MH 402 and junior standing.  
Transistor theory and physical concepts; characteristics; applications in electronic circuits (audio, video, and radio frequencies); control circuit applications; advantages and disadvantages of transistors for several different types of general problems. The laboratory stresses transistor fundamentals and design of circuits involving transistors.
444. **Fundamentals of Digital Computers (5).** Pr., EE 320 and junior standing.  
A study of digital techniques; application of number systems to electronic circuits and electrical devices.
445. **Nuclear Instrumentation (5).** Lec. 4, Lab. 3. Pr., EE 320, EE 333 and junior standing.  
A study of the electrical engineering aspects of reactor control and nuclear instrumentation.
448. **Communications Engineering II (5).** Pr., EE 340, MH 402, and junior standing.  
Radio frequency circuit theory and applications.
449. **Communications Engineering Laboratory II (1).** Lab. 3. Pr., junior standing; Coreq., EE 448.  
Experiments on circuits studied in EE 448.
450. **Applied Electromagnetism (5).** Pr., EE 332, MH 402 and junior standing.  
Vector analysis, basic laws and equations of electromagnetism, development of Maxwell's equations, wave propagation and reflection.
451. **Communications Engineering Laboratory III (1).** Lab. 3. Pr., junior standing. Coreq., EE 430.  
Experiments on circuits studied in EE 430.
453. **Communications Engineering Laboratory IV (1).** Lab. 3. Pr., EE 430, EE 450, and junior standing.  
Experiments on antenna systems.

#### GRADUATE COURSES

610. **Power Transmission Systems (5).** Pr., EE 614, EE 613.  
Power transmission systems operating under both normal and fault conditions; problems of design, protection, relaying, and metering; various types of instabilities; the utilization of network analysers of various types.
611. **High Voltage Phenomena (5).** Pr., EE 614.  
Study of high voltage phenomena such as lightning and corona discharge; analysis and design of associated equipment such as surge generators and protective devices; contemporary problems of high voltage power transmission, grounding, and insulation.

- 612. Advanced Electrical Machine Design (5). Pr., EE 614.**  
The methods of Kron, Parks, and Fortescue applied to both steady state and transient conditions; space harmonics and hunting; emphasis on equipment currently in use by power transmission systems and industrial plants.
- 613. Transmission Lines (5). Pr., EE 614.**  
Unified study of all types of wire transmission lines; special cases including taper, non-uniform insulation, and unbalance to ground; general theory and utilization of charts; stubbing; per-unit techniques.
- 614. Transients in Linear Systems (5).**  
Transients in lumped and distributed parameter systems by classical and transform techniques. Associated material in differential equations, complex variables, and dynamics.
- 615. Advanced Electrical Measurements (5). Lec. 4, Lab. 3.**  
Measurement of circuit parameters, current, voltage, power, frequency, and wave shape at all frequencies; capabilities and limitations of contemporary measuring equipment.
- 616. Advanced Ultra-High Frequency Circuits (5). Pr., EE 614, EE 450.**  
Maxwell's Equations applied to ultra-high frequency devices; wave guides, cavity resonators, matching and coupling elements; design of microwave networks.
- 617. Principles of Pulse Circuits (5). Lec. 4, Lab. 3. Pr., EE 614.**  
Analysis and design of basic types of pulse forming circuits, with applications to radar, television, pulse-modulation systems, and laboratory instrumentation; laboratory experiments upon basic circuits studied with laboratory work suited to the individual student's needs.
- 618. Advanced Closed-Loop Control Systems (5). Lec. 4, Lab. 3. Pr., EE 614, EE 442.**  
Correlation of frequency and transient response; regulation of lumped and distributed parameter systems; modulated carrier systems; sampled-data systems and  $z$  transforms; off-on systems by phase plane and method of Kochenburger; topics associated with contemporary publications.
- 620. Network Synthesis (5). Pr., EE 614.**  
Synthesis of passive two-terminal and four-terminal networks; energy relations; fundamental properties of driving-point immittances; electro-potential analogy; conventional and insertion loss method of design.
- 621. Electronic Computer Theory (5). Lec. 4, Lab. 3. Pr., EE 614.**  
General study of computer components; operational amplifiers, function generators, multipliers, stabilized power supplies; pulse circuits, memory storage devices and read-out devices; techniques of computer operation.
- 690. Seminar. Credit to be arranged. (May be taken more than one quarter.)**
- 699. Research and Thesis. Credit to be arranged. (May be taken more than one quarter.)**

## Engineering Graphics (EG)

*Professor Francis*

*Associate Professors Collins, Little, and McClung*

*Assistant Professors Ball, Ingram, Klepinger, and Mitchell*

*Instructors Johnson, H. Jones, T. Jones, McGarr, Stewart, and Williams*

The Department of Engineering Graphics is a service department to the School of Engineering. However, the courses offered in this department may also be taken by the students in other schools who desire to receive such information on graphic subjects useful in their particular field.

The courses as given below for the first year students are designed to give the theory and practice in Engineering Drawing and Descriptive Geometry serving as fundamental subjects in all engineering curricula. Those to be given as second year courses furnish not only the theory of graphical solution of engineering problems, but prepare the student for more advanced courses such as Applied Mechanics, Strength of Materials, and Machine Design.

This department has well-illuminated drawing rooms with adequate illumination for night work. A model making shop is equipped with necessary tools and machines to make models for class room use. The department also has up to date printing equipment for ozalid prints, and a Thermo-Fax machine for photographic prints.

- 102. Engineering Drawing I (2). Lab. 6. Pr., Plane Geometry.**  
Use of instruments; lettering practice; geometric constructions; principle views in projection; auxiliary and section views; dimensioning; detail working drawings; and isometric projection.

104. **Descriptive Geometry (2).** Lab. 6. Pr., EG 102 and Solid Geometry.  
Basic principles pertaining to points, lines, and planes; including problems on sections, developments, and intersections of solids.
105. **Engineering Drawing II (2).** Lab. 6. Pr., EG 102.  
Technical sketching; reading analysis of shop drawings; machine parts, detail and assembly drawings; types and arrangement of materials; titles and symbols; tracings, printing, and other reproduction methods; steel and timber structures; riveting and welding.
204. **Kinematics of Machines (3).** Lec. 2, Lab. 3. Pr., EG 104, EG 105, and coreq., PS 201.  
A study and graphical analysis of the fundamental elements of machines, including: definitions, velocity and acceleration diagrams, methods of transmission of motion by links, cams, gears, gear trains, and flexible connectors.
205. **Applied Graphic Statics (2).** Lec. 1, Lab. 3. Pr., EG 105 and coreq., PS 201.  
Resultants and equilibrium of concurrent, parallel and non-parallel forces; moments of parallel forces; general cases of reaction of coplanar forces; stresses in simple trusses by joint and section methods; cranes, derricks, dredges, and frames with bending members; static forces in machines with and without friction.
306. **Advanced Graphics for Engineers (3).** Lec. 2, Lab. 3. Pr., EG 104, MH 361.  
Vector geometry, functional scales, nomography, combination of observations, empirical equations, and graphical calculus.
404. **Advanced Engineering Graphics (2).** Pr., EG 205, ME 305, and junior standing.  
Moments of non-parallel coplanar forces, shear and moment diagrams for concentrated and distributed loads; deflection of beams, influence diagrams; special trusses; combined analytic and graphic methods applied to frames with bending members; concurrent, parallel, and non-parallel forces in space; static forces in machines with and without friction, centroids and moment of inertia.

#### GRADUATE COURSES

610. **Advanced Charts and Diagrams (5).** Spring. Pr., EG 204. Francis or Little  
Graphics and algebraic equations, graphical calculus, sliding scale, network charts, empirical equations, cartographs.
612. **Design of Jigs and Fixtures (5).** Lec. 3, Lab. 6. Spring. Collins  
Study of accepted types of jigs, fixtures and dies; production rates, expense and savings, automatic tooling design, indexing operations.
620. **Patents (5).** Winter. Little  
Patentability, claims, patent office procedures, foreign patents, role of patent attorney, patent drawings, sale and exploitation of patents.

#### English (EH)

*Head Professor Patrick*

*Professors Brittin, Current-Garcia, Gosser, Haines, McCann, and Moore*

*Associate Professors Amacher, Benson\*, Breyer, Burnett, Hoepfner, Malone, and Woodall*

*Assistant Professors Butler, Carruth, Faulk, Hauser, Jackson, Jones, Kaminsky,*

*Littleton, McLeod, Melzer\*\*, Miller\*\*, Polhemus, Rose, Stroud, and Wright*

*Instructors Adams, Alger, Barnett, Cain, Hearn, Heidtmann, Holladay, Humphrey, Johnson, Sewell, Simpson, Zickovic, and Zurflieh*

*Graduate Assistants Breyer, Coumes, Dixon, Dunn, Faust, Jamieson, Lacerva, Lawson, McDonald, Mitchell, Molaison, Pritchett, Register, Tallakson, and Wilson*

English 101-2 or 103-4 is required of all freshmen and is a prerequisite for all other courses in English. Students whose scores on the placement tests are sufficiently high will register for English 103-4. Those whose scores indicate a serious deficiency in grammar and composition will register for English 010. All others will register for English 101.

At least one quarter of literature is a prerequisite for all five-hour courses numbered 300 and above.

In addition to the regulations governing the major in the School of Science and Literature as stated on page 183, these additional requirements apply to the English major.

1. The major will take a fourth quarter of foreign language and History 472 as two of the five-hour electives.

\* Temporary.

\*\* On leave.

2. Two of the following three courses are required of the English major: EH 390, 401, and 441.
3. A student majoring in English should report to the English office to be assigned a major professor who will regularly counsel the student in his program of study.
- 1010. Remedial English (5 hrs. lec.—non-credit). All quarters.**  
A remedial course in the fundamentals of grammar and composition.
- 101-2. English Composition (5-5). EH 101 pr. for EH 102. All quarters.**  
A course in the essentials of grammar, composition, and reading.
- 103-4. English Composition for Superior Students (5-5). All quarters.**  
Reading and composition for superior students.
- 107. Introduction to Literature (3). Pr., EH 101-2 or 103-4. All quarters.**  
Reading and discussion of a variety of important literary works selected for their relevance to humanistic problems of the modern age.
- 108. Classical Literature (5). Pr., EH 101-2 or 103-4. All quarters.**  
The reading and discussion of significant works of classical Greek and Roman literature with emphasis on the western heritage of ancient thought. Not open to students with credit in EH 107.
- 141. Medical Vocabulary (5). Pr., EH 101-2 or 103-4. All quarters.** Gosser  
A course dealing with prefixes, suffixes, and the more common root words of medical terminology.
- 208. Literature of the Western World (3). General elective. Pr., EH 101-2 or 103-4, and EH 107 or 108. All quarters.**  
The study of about eight significant literary works of the Western World which provide representative views of man in the Medieval, Renaissance-Reformation, and Eighteenth Century periods.
- 241. Scientific Terminology (5). Spring.** Gosser  
A study of word parts in the terminologies used in the medical, natural, and physical sciences. As far as is practicable, each student's work is channelled in the direction of his special needs.
- 253. Literature in English (5). All quarters.**  
A study of the literature of England from 1400 to 1800.
- 254. Literature in English (5). All quarters. Pr., EH 253.**  
A study of English and American literature of the nineteenth and twentieth centuries.
- 301. Creative Writing (3). General elective. Fall, Spring.** Jones  
A course devoted principally to the writing and criticizing of short stories. But the student may be permitted to write poetry, drama, or any other form of imaginative literature.
- 302. Creative Writing (3). General elective. Fall, Spring.** Jones  
A continuation of English 301.
- 304. Technical Writing (3). All quarters.** McCann and Staff  
Not open to students with credit in EH 345. Report writing for engineers.
- 310. Word Study (3). General elective. Fall, Spring.**  
A study of the history of English words and their meanings with the object of improving the student's command of his language and illustrating for him some of the patterns in the development of human thought.
- 320. An Introduction to Drama (3). General elective. Winter.** Hoepfner  
Representative tragedies and comedies of Europe from antiquity to the present. Such figures as Sophocles, Moliere, Shakespeare, and Ibsen will be considered.
- 345. Business and Professional Writing (5). All quarters.** Staff  
A course in practical composition including abstracting, correspondence, and reports for students in business administration and pre-professional science.  
NOT OPEN TO ENGLISH MAJORS OR MINORS. Students cannot earn credit in this course and also in EH 304.
- 350. Shakespeare's Greatest Plays (3). General elective. Fall. Not open to students with credit in EH 451-2.** Hoepfner  
A study of some of Shakespeare's masterpieces.
- 352. Contemporary Fiction (5). Fall.** Benson  
American and British novelists from Lawrence to Faulkner.
- 353. Contemporary Drama (5). Spring.** Amacher  
Continental, British, and American dramatics from Ibsen to the present day.

355. Masterpieces of World Literature (3). General elective. Winter. Malone
357. Survey of American Literature (5). Fall, Spring. Current-Garcia, Patrick  
American literature from the beginning to 1860.
358. Survey of American Literature (5). Winter, Summer. Current-Garcia, Patrick  
American literature from 1860 to the present.
360. Continental Fiction (3). General elective. Winter. Malone  
A study of representative European short stories and novels.
361. History of English Drama (5). Spring. Hoepfner  
English drama from the medieval period to 1900.
363. Eighteenth Century English Literature (5). Fall. McCann  
A survey of poetry and prose from Dryden through Shenstone.
364. Eighteenth Century English Literature (5). Spring. McCann  
Survey of poetry and prose from Johnson through Blake.
365. Southern Literature (3). General elective. Spring. Current-Garcia, Patrick
368. Folk-lore and the Ballad (3). General elective. Winter. Hoepfner  
A study of the folk-lore and ballad tradition.
371. The American Short Story (5). Winter. Current-Garcia, Patrick  
The development of the American short story from the beginning to the present.
372. The American Novel (5). Fall. Current-Garcia, Patrick  
The development of the American novel from the beginning to 1900.
381. The Literature of the Age of Reason (3). General elective. Fall. Amacher  
A study of rationalism, its assumptions and effects, political, social, and scientific as seen in the works of such major eighteenth-century writers as Locke, Johnson, Burke, Voltaire, and Rousseau.
385. The Impact of Science and Technology upon Modern Literature (3). General elective. Winter. Amacher  
An investigation of a few major 19th and 20th century writers who reflect in their works the impact of scientific theory and methodology upon traditional, cultural, and philosophical values.
390. Advanced Composition (5). All quarters. Faulk  
The practice and theory of expository writing; the command of language for the clear and forceful communication of ideas.
401. Advanced English Grammar (5). Fall, Spring. Pr., junior standing. Haines  
A study of both formal and functional grammar.
410. European Literature (5). Fall. Pr., junior standing. Malone  
A survey of the principal European literary figures and trends from the Renaissance to the present, with emphasis on the literature of Italy, France and Germany.
441. Introduction to the Study of the English Language (5). Winter, Summer. Pr., junior standing. Gosser  
An introductory course intended to familiarize the student with such various aspects of language study as phonetics, spelling, syntax, parts of speech, etymology, sound changes, dialect, and the development of handwriting.
450. Contemporary Poetry (5). Winter. Pr., junior standing. Benson  
The chief modern poets of England and America.
- 451-2. Shakespeare (5-5). Winter, Spring. Pr., junior standing. Brittin  
The first quarter deals with the plays written before 1600, emphasizing comedies; the second, with the plays written after 1600, stressing tragedies.  
Credit for either or both of these courses excludes credit for EH 350.
456. English Romantic Movement (5). Fall. Pr., junior standing. Breyer  
An intensive study of three of the poets in the English Romantic Movement, with some attention to the essayists and other figures.
457. Victorian Literature (5). Spring. Pr., junior standing. Woodall  
The major poets and non-fiction writers from 1830 to 1890.
459. Poetry and Prose of the Elizabethan Period (5). Winter. Pr., junior standing. Moore  
A survey of the non-dramatic literature of the Elizabethan Period.
- 481-2. English Novel (5-5). Fall, Spring. Pr., junior standing. Breyer, Brittin  
The first quarter provides a survey of the development of fiction from the Greek Romances down through the Renaissance and then concentrates on the great English novelists of the 18th Century. The second quarter provides a survey of the English novel from Jane Austen to Thomas Hardy.
491. American Poetry (5). Summer. Pr., junior standing. Current-Garcia  
A study of the major American poets from the Colonial period to 1920.

## GRADUATE COURSES

- 610. Introduction to Graduate Study in English (5). Winter.** Woodall  
Theory and methodology in the study of language and literature. This course is required of all graduate English majors.
- 611-12. Studies in the History and Interpretation of Literature (5-5). Summer.**  
Designed for the secondary school teacher of literature, this course emphasizes the study of literature by types and by historical periods. The first term, dealing with the English literature of the Pre-Renaissance, Renaissance, and Post-Renaissance periods, concentrates on poetry, drama, and the essay. The second term, dealing with English literature of the nineteenth century and with American literature of the eighteenth and nineteenth centuries, concentrates on fiction, history, and biography.
- 615. English Literature of the Earlier Seventeenth Century (5). Winter. (Offered in alternate years.)** Haines  
The intellectual setting and the chief issues in the works of Bacon, Burton, Milton, Browne, Hobbes, and Bunyan will be studied in the first six weeks; in the second, the poets from Donne to Butler.
- 616-17. Studies in the American Language (5-5). Summer.**  
The first term deals primarily with the history and theory of the American language; the second deals with the analytical description of the grammar of the language. Both courses are designed to provide the secondary school teacher with a background of linguistic principles and an understanding of them that can be applied to the teaching of reading and writing.
- 620. Twentieth Century Writers (5). Spring.** Benson  
An intensive study of the works of two or three major British and American writers. Ordinarily the course will be devoted to either novelists or poets.
- 630. Medieval Literature (5). Spring.** Moore  
A survey of the various types of medieval English literature from 1200 to 1500 in the first six weeks; in the second, the development of the drama from the ninth-century *Quem queritis* to the English interlude. The literature is read in translation.
- 641. Old English (5). Fall.** Gosser  
An elementary study of the language and literature of the English people before the Norman Conquest.
- 651-2. Studies in American Literature (5-5). 651, Fall; 652, Summer.** Current-Garcia, Patrick  
An intensive study of the works of two or three major American writers both as literature and as a reflection of American civilization and thought.
- 654. Elizabethan and Jacobean Drama (5-5). Fall.** Brittin, Haines  
Alternately this course treats the dramatic works of Shakespeare and Elizabethan drama exclusive of Shakespeare. A maximum of ten hours of credit may be earned. (Jacobean drama in 1957-58.)
- 655. English Literature of the Eighteenth Century (5). Winter.** McCann  
The principal writers from Dryden to Blake with some reference to the intellectual, social and political trends of their age.
- 657. Studies in English Literature in the Nineteenth Century (5). Winter.** Breyer  
A study in alternate quarters, of selected Victorian prose writers and Victorian poets.
- 661. Chaucer (5). Spring.** Gosser  
A study of the works with special attention to *The Canterbury Tales* and *Troilus and Criseyde*.
- 662. Milton (5). Winter. (Offered in alternate years.)** Haines  
A study of the poems and representative prose works, focusing on *Paradise Lost*.
- 680. History of Literary Criticism (5). Spring.** Malone  
A survey of major critics of western literature from Aristotle to the present.
- 699. Research and Thesis. Credit to be arranged.** Graduate Staff

## Journalism (JM)

Associate Professor Burnett

In addition to completing the general requirements prescribed by the School of Science and Literature, the English-Journalism major takes 35 hours of course work in English and Journalism. This 35 hours should include EH 390, three journalism courses, and three 300 and 400 English courses. Though a student may major in English and minor in journalism, he is not permitted to major in English-Journalism and also the journalism as a minor. Students majoring in English-Journalism or



minoring in journalism should report to the Professor of Journalism for advice on their programs of study.

English 101-2 or 103-4 is a prerequisite for all courses in journalism.

221. **Beginning Newswriting (5).**  
Introduction to newswriting, newspaper style, and mechanical practice. Supplemented by work on the college newspaper.
223. **Reporting (5). Pr., JM 221.**  
Study and practice in the technical aspects of reporting and newsgathering methods. Supplemented by work on the college newspaper.
224. **Copyreading and Editing (5). Pr., JM 221.**  
The methods of editing copy, writing headlines, basic make-up and proof reading.
315. **Agricultural Journalism (3).**  
Designed for students of agriculture and home economics. Introducing the practices of news coverage and writing, with major emphasis on specialized fields of study.
322. **Feature Writing (5). Pr., JM 221 or permission of the instructor.**  
Gathering material for and the writing of "human interest" and feature articles for newspapers and magazines, with consideration given to the marketing of manuscripts.
323. **The Weekly Newspaper (5). Pr., JM 221.**  
The methods, problems, and policies involved in editing the weekly newspaper, as differing from the metropolitan daily.
421. **Photo-Journalism (5).**  
A study of the uses and processes of photography in the newspaper and magazine field. Operation of press cameras and the technique of developing, printing, and enlarging of pictures is provided.
465. **The History and Principles of Journalism (5).**  
A study of the development of the American Press, the principles and ideals of modern journalism, and the law of the press and radio.

#### GRADUATE COURSE

605. **Agricultural Newswriting (3). Lec. 4. Pr., 20 hours of Journalism or consent of instructor.**  
A study of the methods and problems of writing agricultural and home economics news, feature articles, and columns for publication. Special attention is given to improving communication of effectiveness between the specialist and the public.

### Foreign Languages (FL)

*Professor Skelton*

*Assistant Professors Hamilton\*, Ikenberry, and Monahan*

*Instructors Helmke, Miller\*, and Warkington*

The Department of Foreign Languages offers elementary, intermediate, and advanced courses designed to acquaint the student with the structure of the language and to develop in him some facility in the actual use of the language through a combined conversational and reading approach. At an early level the student is introduced through the foreign language to the background, history, and the civilization of the speakers of that language. The upper levels are devoted to fostering an understanding and an appreciation of the respective literatures.

A minor in most cases involves the completion of FL 322, 332, or 352. A major in foreign languages requires the completion of seven courses above the one hundred level. These courses may be taken in two or more different languages. Students who contemplate working toward either a major or minor in Foreign Languages should consult with the Head Professor.

Students who have completed two or more years of a foreign language in high school should continue that language on the intermediate level. College credit is not granted for an elementary course when the student has pursued that language two years in high school.

#### French

121. **Elementary French (5).**

The aim of this course is to give the student the fundamentals of the French language together with as much simple reading as time will permit. Constant stress will be placed on oral and aural practice, with special emphasis on idiomatic expression.

\* Temporary.

\*\* On leave.

122. **Elementary French (5). Pr., FL 121 or equivalent.**  
A continuation of FL 121.
221. **Intermediate French (5). Pr., FL 122 or equivalent.**  
Designed to acquaint the student with the background and the civilization of France and at the same time provide practice in reading current French. Special emphasis is placed on the acquisition of vocabulary and on oral practice.
222. **Intermediate French (5). Pr., FL 221 or equivalent.**  
An introduction to French literature. Representative works of moderate difficulty and high literary value will be read. Oral practice will be continued.
321. **Advanced French (5). Pr., FL 222 or equivalent.**  
Outstanding prose works, especially short stories and novels. Continued emphasis on vocabulary building and oral practice.
322. **Advanced French (5). Pr., FL 222 or equivalent.**  
French drama and poetry. Representative works of Racine, Moliere, or Corneille in the field of drama will be read together with selected poems from the Pleiade to the moderns.
421. **History of French Literature (5). Pr., FL 222 or equivalent.**  
The main developments of French literature from the Chansons de geste through Humanism, Romanticism, Symbolism and Realism to the contemporary movements.
422. **History of the French Language (5). Pr., FL 222 or equivalent.**  
The external development of the French language from the Celtic substratum through the Germanic migrations, the Renaissance, and down to modern time.

### Spanish

131. **Elementary Spanish (5).**  
Corresponds to FL 121.
132. **Elementary Spanish (5). Pr., FL 131 or equivalent.**  
Corresponds to FL 122.
231. **Intermediate Spanish (5). Pr., FL 132 or equivalent.**  
Corresponds to FL 221.
232. **Intermediate Spanish (5). Pr., FL 231 or equivalent.**  
Corresponds to FL 222.
331. **Advanced Spanish (5). Pr., FL 232 or equivalent.**  
Corresponds to FL 321.
332. **Advanced Spanish (5). Pr., FL 232 or equivalent.**  
Spanish drama and lyric poetry. Representative works of Lope de Vega, Calderon, and Echegaray in the field of drama will be read together with selected poems from Becquer, Campoamor, Ruben Dario, etc.
431. **History of Spanish Literature (5). Pr., FL 232 or equivalent.**  
The main developments of Spanish literature from the Poema del mio Cid through the Golden Age, Barroquismo, and Realismo to the moderns.
432. **History of Spanish Language (5). Pr., FL 232 or equivalent.**  
The external development of the Spanish language from Roman times through the Visigothic and Moorish empires, the Renacimiento, and the Age of Discovery.

### German

151. **Elementary German (5).**  
Corresponds to FL 121.
152. **Elementary German (5). Pr., FL 151 or equivalent.**  
Corresponds to FL 122.
251. **Intermediate German (5). Pr., FL 152 or equivalent.**  
Corresponds to FL 221.
252. **Intermediate German (5). Pr., FL 251 or equivalent.**  
Corresponds to FL 222.
351. **Advanced German (5). Pr., FL 252 or equivalent.**  
Corresponds to FL 321.
352. **Advanced German (5). Pr., FL 252 or equivalent.**  
German drama and lyric poetry. Representative works of Goethe, Schiller, and Lessing in the field of drama will be read together with selected poems from Heine, Klopstock, Herder, etc.
451. **History of German Literature (5). Pr., FL 252 or equivalent.**  
The main developments of German literature from the beginning through the Ritterzeit, Reformation, Klassik, and Romantik Realismus.

452. History of the German Language (5). Pr., FL 252 or equivalent.  
The place of Germanic in the Indo-European family, the relation of West Germanic to Gothic and Old Norse, and the connections between German and English.

### Italian

241. Elementary Italian (5). Pr., Permission of the instructor.  
The fundamentals of the Italian language with readings in the development and civilization of Italy.
242. Elementary Italian (5). Pr., FL 241 or equivalent.  
A continuation of FL 241.
341. Intermediate Italian (5). Pr., 242 or equivalent.  
Selected readings in Italian literature.

### Portuguese

261. Elementary Portuguese (5). Pr., Permission of the instructor.  
The fundamentals of Brazilian Portuguese with readings in the development of Luso-Brazilian civilization.
262. Elementary Portuguese (5). Pr., FL 261 or equivalent.  
A continuation of FL 261.
361. Intermediate Portuguese (5). Pr., FL 262 or equivalent.  
Selected readings in Luso-Brazilian literature.

### Russian

171. Elementary Russian (5).  
Corresponds to FL 121.
172. Elementary Russian (5).  
Corresponds to FL 122.
271. Intermediate Russian (5).  
Corresponds to FL 221.

### Forestry (FY)\*

*Professors DeVall, Christen, and Hodgkins*  
*Associate Professors Johnson and Posey*  
*Assistant Professors Beals, Larsen, and Steensen*  
*Instructor White*

- 102-3. Introduction to Forestry (1-1). Lec. 1. Fall, Winter.  
An orientation course for freshmen students covering all subject matter fields in professional forestry as well as curriculum requirements and related academic relationships.
104. Forest Cartography (2). Lab. 6.  
Introduction in the use of drafting instruments, engineering lettering, conventional map signs and symbols and application to planimetric and topographic maps, map design and grids.
- 201-2. Dendrology (3-3). Lec. 1, Lab. 6. Fall, Winter. Pr., BY 202, or permission of instructor. Coreq., FY 104.  
A course dealing with the identification, taxonomic and ecological characteristics, and the distribution of important forest trees of the U.S.A. One quarter devoted to Angiosperms and one quarter to Gymnosperms.
203. Silvics (5). Lec. 3, Lab. 6. Spring. Pr., AY 305, BY 306, FY 202.  
The influence of site factors on the reproduction, growth, development, and characteristics of forest vegetation and the effect of forest cover on the site. The classification of forest vegetation.
204. Forest Mensuration (5). Lec. 3, Lab. 6. Spring. Pr., FY 202, CE 201.  
A course dealing with the methods and equipment used in measuring and computing the size, growth, and volume of trees and stands; units and volume of products; the preparation and use of volume and yield tables; principles of sampling as applied to timber estimates.
301. Silviculture (5). Lec. 3, Lab. 6. Fall. Pr., FY 392.  
Methods of cutting for reproduction and stand improvement. Methods of slash disposal; silvicultural plans.

\* The prerequisites may be waived, by permission of the instructor concerned, for junior and senior students in other departments.

302. **Forest Fire Control (3).** Lec. 2, Lab. 3. Winter. Pr., junior standing.  
A course covering the important phases of forest fire protection, including organization, administration of the program, and detection and suppression of fires. Transportation, communications, and the operation, repair and maintenance of forest fire equipment. Public relations problems.
307. **Tools of Wood-Working Industries (3).** Lec. 1, Lab. 6. Winter. Pr., junior standing.  
The character and use of the principal tools, both hand and machine, employed in wood-using industries.
310. **Advanced Mensuration (3).** Lec. 2, Lab. 3. Winter. Pr., FY 390.  
Statistical and mensurational methods. Preparation and interpretation of stand, stock, and yield tables; determination of size quality.
311. **Wood Technology I (5).** Lec. 3, Lab. 6. Fall. Pr., one quarter of Dendrology.  
Identification of commercial woods of the United States by microscopic and macroscopic features. Study of the structure of woods.
313. **Farm Forestry (5).** Lec. 3, Lab. 4. Fall, Winter. Pr., sophomore standing.  
(Not open to students in the degree Forestry curricula.) The place of farm forests in agricultural economy. The application of forestry principles to the problems of the farm woodland, especially as they relate to Alabama conditions.
315. **Seeding and Planting (3).** Lec. 2, Lab. 3. Spring. Coreq., FY 301.  
The theory and practice of seed collection, germination, seeding, and planting of forest trees in the nursery and in the field.
316. **Forest Economics (3).** Lec. 3. Spring. Pr., junior standing or permission of instructor.  
Fundamentals of economics as applied to the business of forestry. Supply, demand and price relationships and predictions for the future. Input-output relationship in production.
390. **Field Mensuration (5).** Lec. 1, Lab. 12. Summer. Pr., FY 204.  
Practical experience in timber cruising and field application of forest mensuration principles.
391. **Forest Engineering (5).** Lec 1, Lab. 12. Summer. Pr., CE 201.  
Surveying and mapping forest properties.
392. **Forest Ecology (3).** Lec. 1, Lab. 6. Summer. Pr., FY 203.  
Field study of the biotic and edaphic factors that affect the growth and development of forest stands. A study of natural plant succession in the Piedmont of Alabama.
393. **Alabama Forest Industries (3).** Lec. 1, Lab. 6. Summer.  
Inspection of pulp and paper mills, of wood preservation plants, sawmills, furniture factories, cooperage and plywood factories.
396. **Forest Site Evaluation (2).** Lec. 1, Lab. 3. Summer. Pr., FY 203.  
Field training in quantitative evaluation of the productivity of forest sites on the basis of soil properties.
402. **Range and Game Management (5).** Lec. 5. Spring. Pr., FY 392.  
Principles of range and game management as applied to forest properties.
405. **Lumber Grading (3).** Lec. 2, Lab. 3. Fall. Pr., FY 308.  
The theory and practice of lumber grading, including hardwoods and softwoods; yard, structural and factory grades.
407. **Forest Management (5).** Lec. 5. Winter. Pr., FY 301 and junior standing.  
Organization and administration of forest properties; theory of working plans; regulation of cuts; cutting cycles and rotations.
408. **Logging (3).** Lec. 2, Lab. 3. Fall. Pr., FY 301.  
A study of logging methods and field practice in the use of logging equipment.
414. **Regional Silviculture (3).** Lec. 3. Winter. Pr., FY 301 and junior standing.  
A study of the value, growth, stands, species, and problems of forestry in the South, especially Alabama, as compared to other states and regions.
417. **Photogrammetry (5).** Lec. 3, Lab. 6. Fall, Winter. Pr., FY 390 and junior standing.  
The use of aerial photographs in Forestry. Particular emphasis is placed on specifications for forestry photographs, basic map control, planimetric mapping, form-line mapping, timber type mapping and timber volume estimation.
418. **Advanced Forest Management (3).** Lec. 1, Lab. 6. Spring. Pr., FY 407 and junior standing.  
Review of steps and procedures in preparation of management plans; preparation of management plans for selected areas.
421. **Forest Research Methods (3).** Lec. 2, Lab. 3. Spring. Pr., junior standing.  
Review of statistical and sampling methods. Experimental design and analysis of data.

424. **Cost Control and Integrated Utilization (3).** Lec. 3. Winter. Pr., FY 426, FY 408 and junior standing.  
A study of the various factors which affect logging cost and the value of the product. Special emphasis is given to the problem of determining the best market for each size and grade of material when various markets such as pulpwood, sawlogs, poles, pilings, cross-ties, and veneer bolts are available at different distances from the logging operation.
425. **Wood Gluing and Lamination (5).** Lec. 3, Lab. 6. Fall. Coreq., FY 311, Pr., PS 205 and junior standing.  
Types and characteristics of woodworking glues. The theory, design, and manufacture of laminates and other glued products. The student will be introduced to research techniques and procedures by pursuing a specific study that will culminate in a comprehensive report.
427. **Forest Valuation (5).** Lec. 5. Fall. Pr., EC 200, FY 204, and junior standing.  
Bases and methods of determining the value of stumpage and land. Calculation of taxes on and damages to a forest enterprise. Principles of insurance as applied to a forest enterprise. Computation of financial maturity of trees and stands.
429. **Forest Tree Nursery Management (3).** Lec. 2, Lab. 3. Spring. Pr., FY 315 and junior standing.  
Principles and practices applicable to the operation of a commercial forest tree nursery. Soil Management techniques directly related to seedling quality will be stressed.
430. **Wood Technology II (5).** Lec. 3, Lab. 6. Winter. Pr., FY 311, CH 203, PS 205, and junior standing.  
Physical and chemical nature of wood substances; wood-liquid relations, thermal and electrical properties, chemical processing of wood.
431. **Wood Technology III (5).** Lec. 3, Lab. 6. Spring. Pr., FY 311, PS 205, and junior standing.  
Mechanical properties of wood, factors affecting the strength of wood, principles used in design of wood structures.
432. **Seasoning and Preservation of Wood (5).** Lec. 5. Winter. Pr., FY 311 and junior standing.  
Principles and practices of seasoning and impregnation of wood, study of wood destroying agencies.
433. **Seasoning and Preservation Laboratory (2).** Lab. 6. Spring. Pr., FY 432 and junior standing.  
Required for wood technology majors only. Laboratory study of techniques and equipment used in the seasoning and impregnation of wood.
434. **Forest Policy (2).** Winter. Pr., junior standing.  
Development of forest policy in the United States against the background of cultural heritages and national economic situations as causative factors. Some time is devoted to several basic considerations important in developing forest policy.
435. **Forest Products Merchandizing (5).** Lec. 3, Lab. 6. Winter. Pr., FY 204, junior standing.  
Introduction of both round and sawn products on the forest products market serves as a basis for the course. Special emphasis is placed on relationships between stumpage value, production costs, and selling price of each product. Problems designed to demonstrate the effect of integrated merchandizing of forest products are supplemented with sawmill demonstrations and field discussions.
440. **Farm Forest Management I (3).** Lec-Dem. 4. Pr., graduate standing.  
Field demonstrations to be arranged. Methods of measuring forest products and computing volumes and growth of trees and stands applicable to forest practice on farm woodlots. Methods of thinning, stand improvement, and harvesting, applicable to woodlot management.

## GRADUATE COURSES

600. **Microtechnique of Woody Plants (5).** Lec. 1, Lab. 12. Fall. Pr., FY 311. Staff  
Preparation and sectioning of woody tissues for microscopic study. Care and use of the sliding microtome, staining, counterstaining, and mounting of sections.
601. **Wood Chemistry (5).** Lec. 2, Lab. 9. Spring. Pr., FY 430, CH 203. Richards  
Detailed study of the physical and chemical nature of cellulose and modified cellulose and their derivatives. Study of the lignocellulose complex. The chemical analysis of wood.
602. **Chemistry of Wood Glues, Finishes, and Impregnants (5).** Lec. 3, Lab. 6. Spring. Pr., CH 208. Richards  
The composition and characteristics of the synthetic resins used in glues and finishes. The chemical nature of the inorganic and organic chemicals used as fire retardants and preservatives. Testing methods.
603. **Timber Physics (5).** Lec. 3, Lab. 6. Winter. Pr., FY 431, MH 202. Staff  
Use of the calculus in deriving the equation used in mechanics. Solution of simple differential equations of beams. Design of joists, trusses, and structures. Stress analysis by

graphic and analytic methods. Relation of minute structure of wood to mechanical properties. Electrical and other non-mechanical properties of wood. Moisture relations in wood.

- 604-5. Preservative Evaluating Techniques (3-3).** Lec. 1-1, Lab. 6-6. Fall, Winter. Pr., permission of instructor. Richards  
Preparation and care of pure cultures of wood rotting fungi. Physiology of the fungi. Agar and wood block methods of preservative evaluation. Use of agar culture and soil cultures. Weight loss and strength loss as criteria of decay. Resistance to termites and marine borers. Planning service tests. Use of complex statistical design. Study of synergism in preservative mixtures.
- 606. Mechanics of Wood Cutting Tools (3).** Lec. 2, Lab. 3. Fall. Staff  
Study of the action of saw teeth, planer knives, cutterheads, and veneer knives and their shape and material of construction. Study of angle, depth, and rate of cutting and the resultant power consumption. Review of new developments in the field.
- 611. Advanced Forest Soils (5).** Lec. 3, Lab. 6. Fall. Pr., AY 304 or AY 305. Hodgkins  
Importance of morphological, physical and chemical properties of forest soils in relation to growth of trees. Classification of forest soils on the basis of productivity. Special emphasis on forest soils in the southern pine region.
- 612. Forest Influences (5).** Lec. 4, Lab. 3. Winter. Pr., FY 203. Hodgkins  
Effects resulting from the presence of forest or brush upon man, climate, soil productivity, erosion, soil water, runoff, stream flow and floods. Review of the field of forest hydrology.
- 613. Applied Forest Management (5).** Lec. 3, Lab. 6. Fall. Pr., FY 407 or permission of instructor. Christen  
The application of the principles of forest management to a specific forest unit. Special emphasis will be placed on the analysis and evaluation of the physical and economic conditions existing in and around the forest area. The student will prepare a workable management plan for a specific forest tract.
- 614. Forest Land Valuation and Tenure (5).** Lec. 5. Winter. Pr., FY 427. Christen  
History of, and factors affecting forest land tenure in the United States. Advanced work in the valuation of forest land for purchase, tax assessment, and damage appraisal.
- 616. Advanced Forest Research Methods (5).** Lec. 3, Lab. 6. Winter. Pr., FY 421 or permission of instructor. Posey  
Role of experimental design in the field of forest research and the statistical analysis of data as aspects of scientific methods in forest research.
- 617. Forest Inventory (5).** Lec. 4, Lab. 3. Winter. Pr., FY 417, FY 427. Becking  
Design and analysis of large scale timber volume and growth appraisals, continuous forest inventory and use of electronic computing equipment in forest inventory operations.
- 640. Farm Forest Management II (3).** Lec. 4. Pr., FY 440 and graduate standing. Staff  
Organization of the farm woodlot for continuous forest production. Methods of balancing cut and drain, and plans for the efficient administration of the woodlot as a business.
- 690. Forestry Seminar (3).** Spring. Staff  
Advanced study of current literature and recent developments, with written and verbal reports on selected problems.
- 695. Special Problems (3 to 8 hrs.) All quarters.** Staff  
Study of a special problem in forestry or wood utilization. Such a problem will be of lesser magnitude than a thesis but will test the student's ability to do thorough library research as well as any needed laboratory or field work, and to prepare a comprehensive report on his findings. The work may be spread over more than one quarter, but shall be limited to a total of eight quarter hours.
- 699. Research and Thesis.** Credit to be arranged. Staff

## History and Government (HY)

*Head Professor Reynolds*

*Professor Partin*

*Research Professor McMillan*

*Associate Professors Ivey, Johnson, Kendrick, and Rea*

*Assistant Professors Belser, McNorton, Metzger, Naylor, Owsley, Reagan, and Williamson*

*Instructors Nancy C. Robinson\*, Leah R. Atkins\*, and Susan Findley\**

In addition to the regulations governing the major in the School of Science and Literature as stated on page 184, these additional requirements apply to the History major.

\* Temporary.



The major will include HY 311 Medieval History, 5 quarter hours; HY 312 Modern European History, 5 quarter hours; and HY 313 Recent European History, 5 quarter hours.

101. **History of the United States (5).**  
A study of the history of our country to 1865. Required of majors and minors in the Social Sciences in the School of Education.
102. **History of the United States (5).**  
A study of the history of our country since 1865. Required of majors and minors in the Social Sciences in the School of Education.
- 105-205-305-405. **Current Events (1).**  
A study of the events of the world today based on current periodicals.
107. **American History (5).**  
This is a general survey of American History covering important phases from the period of discovery and colonization to the present. Credit for this course excludes credit for HY 101 or 102.
204. **History of the Modern World (3). General elective. (Credit in History 208, 312, and 313 excludes credit for this course.)**  
A brief survey of major periods of modern history and the factors contributing to the modern world civilization. Primarily intended for students in Engineering curricula.
206. **American Government (5). Pr., sophomore standing. (Credit in HY 209 excludes credit for this course.)**  
A survey course in national, state, and local government.
207. **World History (5). Pr., sophomore standing.**  
This course gives a survey of the leading events in World History from ancient times to 1648.
208. **World History (5). Pr., sophomore standing.**  
This course gives a survey of the leading events in World History from 1648 to the present.
209. **American Government (5). Pr., sophomore standing. (Credit in HY 206 excludes credit for this course.)**  
Is an advanced course in nature, theory and practice of national government in the United States.
210. **American Government (5). Pr., sophomore standing.**  
This is an advanced course in the nature, theory and practice of state and municipal government of the United States with emphasis on Alabama government.
311. **Medieval History (5). Pr., junior standing.**  
Primarily a history of Europe from the fall of the Roman Empire to the Age of Discovery.
312. **Modern European History (5). Pr., junior standing.**  
A history of Europe from the Age of Discovery to 1815.
313. **Recent European History (5). Pr., junior standing.**  
A history of Europe since 1815, with especial emphasis on the period since World War I.
314. **American Colonial History (3). General elective. Pr., junior standing.**  
A survey of the political, economic and social history of the colonies from their founding through the American Revolution.
315. **International Organization (3). General elective. Pr., junior standing.**  
This course traces the evolution of international organization from the beginning through the United Nations.
322. **The United States in World Affairs (3). General elective. Pr., junior standing.**  
A brief survey of the influence which the United States has exerted in international affairs. (Excludes credit for HY 421.)
371. **History of the West (3). General elective. Pr., junior standing.**  
A brief history of the development of the West and of its influence on American history.
403. **The Age of Jefferson and Jackson (5). Pr., junior standing.**  
A study of United States history from the establishment of the government under the Constitution through the Compromise of 1850.
404. **Recent American History (5). Pr., junior standing.**  
A study of United States history since 1900.
406. **The Civil War and Reconstruction (5). Pr., junior standing.**  
A study of the political, economic, social, and military aspects of the period covered.
407. **Political Science (5). Pr., HY 206 or 209 and junior standing.**  
A systematic study of the nature, scope, and methods of political science; the origin, forms, and functions of the state, with special emphasis on the development of political theory.

408. **American Political Parties (5).** Pr., junior standing.  
A study of the development of political parties, their policies and influence in United States history.
409. **Constitutional History of the United States (5).** Pr., junior standing.  
A survey of the origins and development of the Constitution of the United States.
420. **History of Russia (5).** Pr., junior standing.  
A survey study of the history of the Russian people from early times to the present. Particular emphasis is laid on present domestic institutions and foreign policy.
421. **A History of U.S. Diplomacy (5).** Pr., HY 107 and junior standing.  
A history of the chief events in our relations with foreign powers from the Revolutionary War to the present, and a study of the organization and working of our diplomatic machinery. (Excludes credit for HY 322.)
451. **The Far East (5).** Pr., junior standing.  
A brief history of the development of the civilizations of the Far East from early times to the present. Emphasis is placed on internal affairs and institutions.
452. **History of Latin America (5).** Pr., junior standing.  
A study of the political, social and economic history of the Latin American States with emphasis on the inter-relations with the United States.
460. **Great Leaders of History (5).** Pr., junior standing.  
A study of some world leaders and their relationship to the great movements of history.
472. **History of England (5).** Pr., junior standing.  
A brief history of the political, economic and social development of England.
481. **History of Alabama (5).** Pr., junior standing.  
A brief history of Alabama from the beginning to the present.
482. **History of the South (5).** Pr., junior standing.  
A survey of the political, economic and social development of the South from colonial times to the present.

#### GRADUATE COURSES

625. **United States Domestic Policy to 1865 (5).**
626. **United States Domestic Policy Since 1865 (5).**
627. **United States Foreign Policy to 1865 (5).**
628. **United States Foreign Policy Since 1865 (5).**
629. **Historical Methods (5).**
630. **The Old South (5).**
631. **The New South (5).**
632. **Historical Laboratory: A Documentary History of the United States (5).**
633. **English and European History (5).**
699. **Research and Thesis (5).**

### Home Economics (HE)

*Dean Spidle*

*Professors Rose and Tyer*

*Associate Professors Spencer, Van de Mark, Glasscock, Ritchie, and Arnold*  
*Assistant Professors Graves, Layfield, Bliss, Cannon, Prather, Morrill, and Rush*  
*Instructors Lorendo, Dawson, and Goodrick*

#### Professional Courses

100. **Freshman Problems (3).** Lec. 3. Summer, Fall. Spidle, Tyer  
An orientation course required of all Home Economic majors with special emphasis on "how to study" and problems confronting freshman students.
104. **Related Art (5).** Lec. 2, Lab. 6. Each quarter. Lorendo  
A study of related elementary art and design. Emphasis is placed on the application of art study to the home.
301. **Visual Aids in Home Economics (3).** Lec. 3. Spring. Pr., junior standing and a major in Home Economics. Goodrick, Arnold  
Recent developments in the Audio-Visual Education will be studied with practical experience in developing illustrative materials in the fields of interest to home economists.
304. **Home and Family Life (3).** Lec. 3. General elective. Each quarter. Layfield  
A study of the relationships of family members, economic and social problems at all age levels, and development tasks of individuals. Open to men and women.

306. **Personal Grooming (3).** General elective. All quarters. Arnold  
Good grooming and its contributing factors.
401. **Extension Organization and Methods (5).** Winter, Summer. Graves, Morrill  
Program planning, methods of communications used by extension and public utilities including history and organization.
421. **An Evaluation of the Major Field (5).** Pr., junior standing. Spidle, Staff  
An evaluation of the possibilities of the major field and the working techniques involved in some of the positions available.
431. **Senior Seminar (3).** Fall and Spring. Pr., senior standing and a major in Home Economics. Rose  
A senior course required for all Home Economics majors. Survey and discussion of recent studies on opportunities and responsibilities for careers in Home Economics; analysis of characteristics, abilities, and skills necessary for success.

#### GRADUATE COURSES IN HOME ECONOMICS

The School of Home Economics offers major work leading to a Master's degree in Clothing and Textiles, Food and Nutrition, Family Life and Nursery Education, and Home Management. The student may elect either the Master of Science or the Master of Home Economics degree, except in the fields of Nutrition and Textiles in which a thesis is required.

To qualify for graduate study, the student must have a Bachelor's degree from a recognized college or university, and sufficient background to assure high quality work on the graduate level. The graduate catalog should be consulted for further information.

#### GRADUATE COURSES FOR ALL MAJORS

*Professors Spidle, Rose, and Tyer*  
*Associate Professors Spencer, Van de Mark, Glasscock, and Arnold*  
*Assistant Professors Graves, Prather, and Morrill*

421. **An Evaluation in the Major Field (5).** Spidle, Staff  
(See description carried in undergraduate listing.)
- 601-2. **Seminar in Home Economics (5-5).** Staff  
Students make reports on the recent literature in the field of home economics. Seminar may be taken in any department: child development, clothing and textiles, foods and nutrition, or home management.
- 603-4. **Administration in Home Economics (5-5).** Spidle  
A study of administrative policies and procedures dealing with staff, personnel, curricula, student guidance, current trends, new legislation in education, budget implications, and program evaluation. This study is developed through lectures, group discussions, visitations to educational projects, and by visiting administrators.
605. **Methods of Research in Home Economics (3).** Glasscock, Rose, Tyer  
A study of research and investigation methods applicable to the various areas of Home Economics.
609. **Research Studies in Home Economics (2-5).** Staff  
Independent, advanced work on an approved project under the supervision of a professor in the student's chosen field of study.
651. **Audio-Visual Aids in Home Economics (5).** Staff  
This course is designed to aid home economists in analyzing, evaluating, organizing, and accumulating illustrative materials.
699. **Research and Thesis. Credit to be arranged.** Spidle, Staff  
Required of all students under the Thesis Option in any field.

#### Clothing and Textiles

*Associate Professors Spencer, Glasscock, and Arnold*  
*Instructors Goodrick and Lorendo*

105. **Fundamentals of Clothing (5).** Lec. 2, Lab. 8. Arnold, Goodrick  
Selection of design, fabric, cutting; fitting and construction of garments for personal use.
205. **Clothing for the Family (5).** Lec. 3, Lab. 6. Each quarter. Pr., HE 105 or equivalent. Arnold, Goodrick  
A study of the economics of clothing for the statistical family group. Suitable garments are planned and made for members of the family.
215. **Clothing Design (5).** Lec. 2, Lab. 6. Fall, Spring. Pr., HE 104, 105. Lorendo  
A study of color, line, form and texture as a basis for designing apparel.
305. **Tailoring (3).** Lab. 9. Winter, Summer. Pr., HE 205, junior standing. Arnold  
Consists of selection of fabric and tailoring of a suit or coat.

315. Textiles (5). Lec. 3, Lab. 4. Fall. Pr., CH 103, 104. Glasscock  
The principal aim of the course is the development of sound judgment in the selection of textiles for personal and household use.
325. Fundamentals of Retailing (5). Winter. Pr., EC 200, junior standing. Arnold  
A study of the practices and policies of retail stores.
335. Retail Training (8). Fall. Pr., HE 325. Arnold  
Three months practical experience with pay in large department store. Students are given formal instruction and supervision. Scheduled only by pre-arrangement.
345. Handicrafts (1-2-3). Lab. 9. General elective. Each quarter. Arnold, Goodrick, Lorendo  
A study of execution of popular crafts; viz., metal work, leatherwork, ceramics, weaving, rug hooking, fabric decoration, and camp craft.
355. Consumer Textiles (3). Lec. 3. General elective. Fall, Winter, Spring. Goodrick, Glasscock  
A study of textile fabrics, finishes, and trade practices with special emphasis on consumer problems.
405. Creative Costume Design (5). Lec. 2, Lab. 9. Spring. Pr., junior standing, HE 215, and two quarters of clothing construction. Arnold  
Consists of making dress forms, designing, draping and executing original designs. Designers and their methods are studied.
415. History of Textiles (5). Lec. 5. Pr., Elementary art and junior standing. Spencer  
A study is made of the development of the textile industry and of fabric design from the earliest times to the present day.
425. History of Costume (5). Lec. 5. Pr., Elementary art and junior standing. Spencer  
A study of the outstanding historic modes in dress for men and women from early times to the present day.
435. Textile Testing (5). Lec. 2, Lab. 6. Winter. Pr., HE 315. Glasscock  
Testing household and apparel textiles with standard textile testing equipment according to A.S.T.M. methods, and the application of data found to better consumer understanding and practices.

## GRADUATE COURSES

650. Flat Pattern Designing (5). Pr., 15 quarter hours undergraduate clothing. Staff  
A study of commercial methods of pattern making. Developing a foundation pattern from which to design and cut garments. Attention is given to variations from the norm of human body measurements and to the need for further research in designing for various age groups.
652. Clothing and Textiles Literature (5). Spencer  
A study of written material in the field of Clothing and Textiles with special emphasis on current periodicals, pamphlets, and reports of recent research. Required of all candidates for the master's degree in Clothing and Textiles.
653. Economics of Clothing Consumption (5). Pr., EC 200, HE 205. Spencer  
A critical examination of the literature on Clothing and Textiles economics, modern trends in manufacture and distribution and labor laws and their influence on clothing.
654. Special Problems in Clothing Economics (5). Pr., HE 653. Spencer  
A study of individual family problems relating to the economics of clothing and textiles, with practical application to the present day consumer.
655. Problems in Home Decoration (5). Spencer  
The undergraduate course, HE 313, is used as a basis for advanced work along the same lines. Problems in valuing choice of materials and arrangements of exteriors as well as interiors of the home are made the topic of minor research.
656. Speed Techniques in Clothing Construction (5). Pr., 10 quarter hours undergraduate clothing. Staff  
A study of recent trends toward rapid construction and of the problems and possibilities of bringing commercial methods into the home or classroom. Minor research in newer methods of clothing construction.
657. Detergency and Cotton Textiles (5). Pr., HE 315 or equivalent. Glasscock  
A study of the chemical relation of detergents, water, bleach, and mechanical action to cotton fibers (cellulose).
658. Chemical and Physical Analysis of Textiles (5). Pr., HE 315 or equivalent. Glasscock  
The study and application of the theory of A.S.T.M., A.A.T.C.C., and other standardized procedures.

## Family Life and Early Childhood Education

Professor Tyer

Assistant Professors Layfield, Bliss, and Morrill

Instructor Dawson

207. Introductory Child Development (3). Lec. 2, Lab. 2. Fall, Winter, Spring. Pr., SY 201. Tyer, Morrill  
Emphasis will be placed on prenatal development, maternal and infant care.
407. Growth and Development of Children (5). Lec. 3, Lab. 6. Pr., PG 211, SY 201. Layfield, Dawson, Bliss  
A study of the mental, physical, social and emotional growth and development of children with emphasis on the early years. Students observe and participate in the care of children in the nursery school and kindergarten.
417. Guidance of Children (5). Lec. 3, Lab. 6. Pr., HE 407, and junior standing. Layfield, Dawson, Bliss  
A study of the environmental factors affecting the development of children in the home and community. Emphasis is given to principles and methods of guidance. Students participate in the guidance of the children in both the nursery school and kindergarten.
437. Special Problems in Child Development Nursery School and Kindergarten Education (5). Lec. 3, Lab. to be arranged. Pr., junior standing. Layfield, Bliss  
A detailed study of the organization and management of a nursery school and kindergarten, including selection of equipment. Special units of work will be given in reading and story telling, nature, music, art, and construction of play materials for children.
447. Nursery School and Kindergarten Procedures (5). Lec. 2, Lab. 9. Pr., junior standing and HE 437. Tyer, Layfield, Bliss  
An advanced course for majors in Nursery School and Kindergarten Education. The student will spend the equivalent of three mornings in the laboratory each week with increased responsibility for the guidance of children under supervision of the staff.
457. Family Relationships (5). Fall, Winter, Spring. Pr., HE 207, HE 407, senior standing. Tyer  
A study of interpersonal relationships among family members, with attention to human development, training and guidance of children.

## GRADUATE COURSES

670. Personality Development (5). Tyer  
A general study of personality and the factors which influence development.
672. Parent Education (5). Lec. 3, Lab. 4. Pr., HE 407. Tyer  
Group and individual conferences with parents.
675. Pre-School Guidance (5). Lec. 3, Lab. 4-6. Pr., HE 407. Tyer  
An application of methods and techniques of guidance in laboratory groups of pre-school children.
676. The Family and Its Relationships (5). Tyer, Layfield, Morrill  
Intensive study of the family and its effect upon personality development.
677. Readings in Family Life and Child Development (5). Layfield, Spidle  
Study and evaluation of current literature and research concerning the pre-school child; the school-age child; the adolescent; the young adult; problems of later maturity; changing family patterns.
678. Advanced Child Development (5). Pr., HE 407. Layfield, Tyer  
An intensive and extensive study of growth and development of children with emphasis upon environmental and developmental factors affecting growth and development and implications for guidance. Laboratory experiences where needed.

## Foods and Nutrition

Associate Professors Van de Mark and Ritchie

Assistant Professors White, Rush, Cannon, and Prather

102. Basic Foods and Nutrition (5). Lec. 3, Lab. 4. Each quarter. Ritchie, White, Cannon  
Elements of nutrition and principles underlying the fundamental processes and standards of food preparation.
202. Meal Management (5). Lec. 3, Lab. 6. Each quarter. Pr., HE 102. Ritchie, White  
The planning of meals with emphasis on scientific principles of nutrition, aesthetic value, management of time and the food budget on various economic levels.

302. **Table Service (3). Lec. 3. General elective. Each quarter.** Ritchie  
A study is made of the accessories used for table service in their relation to each other and to the complete service of meals. Principles of flower arrangements are studied and forms of the different food services in the home.
312. **Food Science (5). Lec. 4, Lab. 3. Pr., CH 203.** Prather  
A study of the chemistry of carbohydrates, fats, proteins, vitamins and minerals applied to human nutrition.
322. **Food Preservation (3). Lec. 1, Lab. 6. Fall and Summer. Pr., VM 311 (Bact.).** Ritchie  
The course consists of the study of the theory and practice of preservation of foods by fermentation, crystallization, canning and freezing with special emphasis placed in better quality of foods preserved at home.
332. **Nutrition and Dietetics I (5). Lec. 3, Lab. 4. Fall. Pr., CH 204, VM 210.** Prather  
A study and application of the various factors in influencing the body's need for food. A course for majors in Nutrition or Nursing Science.
342. **Nutrition and Dietetics II (5). Lec. 3, Lab. 4. Winter. Pr., HE 332.** Prather  
A continuation of HE 332.
352. **Institutional Organization (3). Lec. 3. Winter, Summer.** Van de Mark, Rush  
The organization and administration work in residence halls, clubs, lunch rooms, tea rooms, hotels and hospitals. Study of physical equipment, personnel, ethics, marketing conditions, food purchases, records and accounts. Required field trips to residence halls, hospitals, etc., for observation.
362. **Problems in Community Nutrition (3). Pr., HE 342, or HE 372.** Ritchie, Cannon, White  
Study of the methods of presenting nutrition information or organizations engaged in community work. Field experience.
372. **Nutrition and Health (Credit 3 or 5). Lec. 3, Lab. 4. General elective. Each quarter. Pr., for 5 hour course, CH 102 & 102L.** Van de Mark, White  
A study and application of the fundamentals of human nutrition. Food requirements of different age levels and selection of food at different cost levels are considered. Open to all students except Nutrition or Nursing Science majors.
402. **Diet Therapy (5). Lec. 3, Lab. 4. Spring. Pr., junior standing, HE 332, and HE 342.** Ritchie  
The application of principles of nutrition to various periods of stress and as a therapeutic aid in treatment of disease.
412. **Large Quantity Cookery (5). Lec. 3, Lab. 6. Fall. Pr., junior standing and HE 202.** Van de Mark, Rush  
Institutional menu planning, food buying, preparation and serving of foods. Use, operation and maintenance of equipment. University kitchens are used for the laboratory experience.
432. **Cafeteria Management (5). Lec. 3, Lab. 6. Pr., junior standing and HE 352.** Van de Mark, Rush  
A study is made of layouts, personnel management, foods and equipment applicable to cafeterias. Course also includes administrative problems, records, portion and cost controls. (Field trips.)
442. **Catering (3). Lec. 1, Lab. 6. Spring. Pr., HE 202.** Ritchie  
Advanced food preparation is studied in relation to needs in field of catering. This applies to clubs, hotels and other institutions such as colleges. Problems studied include proper decoration, settings and table accessories.
452. **Food for the Young Child (5). Lec. 2, Lab. 9. Pr., HE 102 and 202.** Ritchie  
A study is made of the food and its preparation for feeding during the pre-natal period and feeding the infant after birth—through the preschool years. The college nursery school serves as a laboratory for this course.
462. **Experimental Cookery (5). Lec. 2, Lab. 6. Pr., junior standing, HE 202, and CH 203.** Van de Mark  
This course is based on a study of causes and effects of various methods of food preparation. It includes basic chemical reactions involved in food combinations. The course gives a foundation for work in food research.
472. **Community Nutrition (5). Pr., junior standing and HE 372 or HE 332 or HE 342.** White, Ritchie  
A study of problems involved in improvement of nutrition practices in the community, as it applies to high school teaching and Extension Service programs.
492. **Infant and Child Nutrition (5). Pr., junior standing and HE 372 or HE 332 and HE 342.** Ritchie  
Nutrition requirements for growth from prenatal life through adolescence.



## GRADUATE COURSES

620. **Experimental Cookery (5).** Pr., or corequisite, CH 304. Van de Mark  
Food preparation from the experimental standpoint giving instruction in techniques used in measuring quality of food. This course gives a foundation in advanced food research.
621. **Advanced Foods (5).** Pr., HE 202 and HE 462. Van de Mark  
Chemical and physical changes of importance in food preparation and processing.
622. **Problems in Food Preservation (5).** Pr., VM 311 and HE 332. Prather  
Various problems which grow out of advanced study of preservation of foods. These problems are subjects for minor research.
623. **Readings in Food or Nutrition (5).** Pr., HE 372, 332, CH 203. Van de Mark  
A critical survey of current literature in nutrition and food consumption.
624. **Advanced Nutrition I (5).** Pr., HE 332, HE 342, CH 203, CH 208. Prather  
A study of carbohydrates, fats, proteins and the minerals.
625. **Advanced Nutrition II (5).** Pr., HE 332, CH 207, CH 208. Prather  
A study of the vitamins and their interrelationships.
628. **Research Methods in Nutrition (5).** Van de Mark, Prather  
Special problems in human nutrition.

## Home Management

Professor Rose

Assistant Professors Graves and Morrill

233. **Home Equipment (5).** Lec. 2, Lab. 6. Fall, Spring. Graves  
A study of home equipment with emphasis on selection, use and care.
303. **The House (5).** Lec. 2, Lab. 6. Fall, Winter, Spring. Spencer  
This course is planned to give the student an appreciation of basic plans, both period and modern, from the standpoint of utility, beauty and economy.
313. **Home Furnishing (5).** Fall, Spring, Summer. Pr., HE 104. Spencer  
This course is a study of home furnishings both from an aesthetic and practical standpoint. This includes the recognition of period furniture and its adaptability to the home of today.
323. **Home Management (5).** All quarters. Pr., HE 202. Rose, Morrill  
A study of the factors affecting the management of the home for the purpose of meeting individual needs and creating satisfying family environment, emphasis on problems involving the use of time, money, and energy.
333. **Cleaning and Lighting Equipment (5).** Lec. 2, Lab. 6. Fall. Pr., PS 207, HE 233. Graves  
Principles underlying the operation and use of lighting, laundry and other cleaning equipment.
343. **Contemporary Materials and Finishes (5).** Lec. 3, Lab. 4. Graves, Morrill  
A study of present day materials and finishes. Laboratory experiences in constructing and renovating furnishings; refinishing, recaning and reupholstering furniture.
353. **Community and Family Health (3).** Lec. 2, Lab. 2. General elective. Fall, Spring. Graves  
A study is made of the health facilities available to the home and community. Field trips are included.
433. **Food Equipment (5).** Lec. 2, Lab. 6. Winter, alternate Summers. Pr., junior standing, PS 207, HE 233. Rose, Graves  
Principles underlying the operation and use of food equipment.
443. **Home Management Residence (5).** Each quarter. Pr., junior standing, HE 202, and HE 323. Rose  
Residence in the home management house gives actual experience in the different phases of homemaking. Stress is placed on the process of management and satisfactory group relations. Home management houses will accommodate a total of twenty girls each quarter. Application for residence must be filed with the Home Management Department at the beginning of the junior year. The cost is the dormitory room and board fee.
453. **The Consumer and the Market (5).** Lec. 5. Winter. Pr., junior standing and EC 200. Rose, Graves  
A study of consumer problems connected with marketing; type of retail outlets, credit, advertising, standardization, labeling, and price policies.
463. **Family Economics (5).** Lec. 5. Spring. Pr., junior standing, EC 200, HE 453. Rose  
A study of budgeting and consumer problems faced by the family.

## GRADUATE COURSES

630. **Home Management Supervision (5).** Pr., HE 323 and HE 443. **Rose**  
A study of management problems in supervision. The three home management houses will be used for observation and study.
631. **Trends in Home Management (5).** Pr., HE 323 and HE 443. **Rose**  
Developments and trends in home management at the state, regional, and national levels.
632. **A Survey of Household Equipment (5).** Lec. 3, Lab. 4. **Rose**  
A survey of equipment in the modern home. Equipment is tested and evaluated in the laboratory where instructional and experimental studies are carried on.
633. **Family Housing (5).** Lec. 5. Pr., EC 200, HE 303, HE 323. **Rose**  
The history and development of American housing; economical, legal and social aspects; present trends.
634. **Economic Problems of Families (5).** Pr., HE 323, HE 453. **Rose**  
A study of income distribution, cost of living, the business cycle, taxation, and economic provisions for unemployment, health, accidents, old age, and dependents.

## Horticulture (HF)

Professor Ware

Associate Professors Amling, Fisher, Furuta, Harris, Jones, and Orr

Assistant Professors Moore and Norton

Instructor Martin

The department offers a curriculum in Ornamental Horticulture and a major in general Horticulture.

The major in general Horticulture prepares graduates for positions as market gardeners, truck growers, fruit and nut growers, or as extension or research specialists in horticulture. The subjects in this course deal with the production, preservation, storage, marketing, and uses of fruits, vegetables, and nuts.

The curriculum in Ornamental Horticulture offers training in landscape gardening, greenhouse management, nursery management, flower shop management and arboriculture. Under the guidance of his major professor the student in Ornamental Horticulture may choose his field of specialty in his Junior Year. Through the choice of technical electives he may specialize in his chosen field. Graduates in this course are prepared for positions as teachers and extension specialists in these fields, as managers of greenhouses, flower shops, nurseries, or a horticulture maintenance business.

Candidates for the degree of Bachelor of Science in Ornamental Horticulture are required to have three months, or an equivalent of three months, practical experience in a greenhouse, nursery, landscape sales lot, or flower shop.

## Ornamental Horticulture

101. **Introduction to Ornamental Horticulture (1).** Lec. 1. Winter. **Staff**  
An orientation course for freshman students introducing all fields in Ornamental Horticulture.
221. **Landscape Gardening (5).** Lec. 3, Lec.-Dem. 4. Spring, Fall. **Fisher**  
The principles of landscape gardening applied to the development of small home grounds and school grounds. The lecture-demonstration periods are devoted to the study of the identification and use of ornamental plants, landscape drawings, and the propagation and maintenance of ornamental plants.
222. **Plant Materials (5).** Lec. 3, Lab. 4. Fall. **Fisher**  
The identification, culture and use of ornamental trees in landscape plantings.
223. **Plant Materials (5).** Lec. 3, Lab. 4. Winter. **Orr**  
The identification, culture, and use of broadleaf and narrowleaf evergreens in landscape plantings.
224. **Plant Propagation (5).** Lec. 3, Lec.-Dem. 4. Winter. Pr., BY 201-2. **Staff**  
The basic principles and practices involved in the propagation of horticultural plants.
225. **Flower Arranging (3).** Lec. 2, Lab. 2. Fall. General elective. **Orr**  
The principles and practices of flower arranging for the home.
321. **Plant Materials (5).** Lec. 3, Lab. 4. Spring. **Fisher**  
The identification, culture and use of deciduous shrubs and small trees in landscape plantings.
322. **Garden Management (5).** Lec. 3, Lab. 4. Spring. **Fisher**  
The identification, culture and use of annuals and perennials.
323. **Floriculture (5).** Lec. 3, Lab. 4. Fall. Pr., HF 224, BY 201-2. **Furuta**  
The principles and practices of greenhouse construction and management.

324. Floriculture (5). Lec. 3, Lab. 4. Winter. Pr., HF 323. Furuta  
Principles and practices of commercial cut flower production.
325. Landscape Design I (5). Lab. 15. Pr., HF 221. Fisher  
The planning of large and small home grounds.
326. Landscape Design II (5). Lab. 15. Pr., HF 221, 325. Fisher  
The planning of public areas and grounds of public buildings, including general layout, planting and detail treatment of special areas.
327. Landscape Construction (5). Lab. 15 or Lec. 3, Lab. 4. Pr., HF 325 and 326. Fisher  
Planning and preparation of specifications for construction of structures that are considered a part of the landscape treatments of an area. Grading and modification of land areas for various purposes and problems in surface and underground water control to be included.
421. Arboriculture (5). Lec. 3, Lab. 4. Fall. Pr., BY 306, 309, and junior standing. Orr  
The principles and practices of the care and maintenance of trees and shrubs, including pruning, tree surgery, transplanting, and fertilization.
422. Floriculture (5). Lec. 4, Lab. 3. Spring. Pr., HF 323 and junior standing. Furuta  
The principles and practices of the commercial production of greenhouse pot plant crops.
423. Nursery Management (5). Lec. 3, Lab. 4. Spring. Pr., HF 224, BY 306, AY 304 and junior standing. Orr  
The principles and practices of the management of a commercial ornamental nursery.
424. Plant Composition (5). Lec. 3, Lab. 4. Spring. Pr., HF 222, 223, 321, and junior standing. Fisher  
The principles and practices of the combination and use of ornamental plants in landscape plantings.
425. Flower Shop (5). Lec. 3, Lec-Dem. 4. Spring. Pr., HF 422, permission of instructor. Orr  
The principles and practices of flower shop management and floral designing.
- 426-27-28. Minor Problems (5-5-5). Lec. 1, Lab. 8. Any quarter. Pr., senior standing and permission of instructor. Staff  
Senior students are assigned minor problems in either Landscape Maintenance, Nursery Management or Floriculture, on which independent library, field or greenhouse investigations are made, under supervision of instructors.
429. Advanced Plant Propagation (5). Lec. 3, Lab. 4. Spring. Pr., HF 224, BY 306, and junior standing. Orr  
Commercial propagation of Horticultural plants with emphasis on the physiological and anatomical principles.
430. Marketing Horticultural Specialty Products (5). Lec. 4, Lab. 3. Pr., HF 324, HF 422, HF 423. Furuta  
Study of channels and methods of distribution of floricultural and nursery products.
431. Advanced Landscape Gardening (5). Lec. 3, Lab. 4. Fall or Spring. Pr., BY 201, HF 221, graduate standing.  
Principles and practices applying to the use of ornamental plant materials in landscaping. (Selected portions of this course may be offered as a 3 hour credit in the Master of Agriculture program.)

### General Horticulture

201. Orchard Management (5). Lec. 3, Lab. 4. Each quarter. Moore  
A practical course in propagating, planting, pruning, cultivating, fertilizing, spraying, thinning, harvesting, grading, storing and marketing the most valuable fruits and nuts grown in the South.
308. Vegetable Gardening (5). Lec. 3, Lab. 4. Each quarter. Norton  
Origin, growth, storage, use, and varieties of vegetables commonly grown in home gardens.
401. Truck Crops (5). Lec. 3, Lab. 4. Fall. Pr., HE 308 and junior standing. Jones  
Production and marketing of truck crops. Special consideration is given to crops grown in the South.
404. Fruit Growing (5). Lec. 4, Lab. 2. Winter. Pr., HF 201 and junior standing. Amling  
Production and marketing of commercial tree fruits grown in the South.
405. Small Fruits (5). Lec. 4, Lab. 2. Spring. Pr., HF 201 and junior standing. Amling  
A study of the principles and practices involved in the production of strawberries, grapes, blueberries, and brambles.
406. Nut Culture (5). Lec. 4, Lab. 2. Fall. Pr., HF 201 and junior standing. Amling  
Production and marketing of pecans, walnuts, chestnuts, tung, and filberts.

407. **Preparation and Handling of Fruits and Vegetables (5).** Lec. 3, Lab. 4. Spring. Harris  
Study of the harvesting, grading, packaging, and handling of fruits and vegetables for market.
408. **Commercial Vegetable Crops (3).** Lec.-Lab. 4. Spring or Summer. Pr., HF 308 and graduate standing. Jones  
The application of research information to the commercial production and handling of the principal vegetable crops. (Credit for both HF 408 and 401 may not be used to meet requirements for the Master's degree.)
410. **Recent Advances in Small Fruits (3).** Spring and Summer. Pr., HF 201 and graduate standing. Amling  
Scientific advances in small fruits and their application to small fruit culture in Alabama. (Credit for both HF 410 and HF 405 may not be used to meet requirements for the Master's degree.)

#### GRADUATE COURSES

601. **Experimental Methods in Horticulture (5).** Lec. 3, Lab. 6. Any quarter. Staff  
A study involving broad purposes of research, discovery, and progress as related to the scientific method; research programs, horticultural programs, selecting projects, reviewing literature, preparing project outlines, conducting experiments, recording data, analyzing data, and publication of results.
602. **Horticultural Literature (5).** Lec. 3, Lab. 6. Any quarter. Amling  
A review of horticultural literature and history of horticultural enterprises, including vegetables, fruits, and ornamentals. The laboratory consists of library assignments and reports.
603. **Special Problems in Horticulture (3-5).** Credit to be arranged. All quarters. Staff  
Pr., graduate standing.  
Selected problems in vegetable production, pomology, food technology, or ornamental horticulture.
614. **Seminar (1).** Fall, Winter, and Spring. Staff  
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization, and presentation of material by the students. This is a joint seminar among the Departments of Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Required of all graduate students in these departments.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter. Staff

#### Industrial Laboratories (IL)

*Professors Jones and Haynes*  
*Assistant Professors Goolsby, Stoves, and Leffard*  
*Instructors Wingard and McMurtry*

Courses in the Industrial Laboratories Department are designed chiefly for those interested in the field of production. The basic areas included are casting, machining, inspection, forming, welding, and other fabrication methods of manufacturing. Attention is given also to the needs of sales and maintenance engineering of industrial equipment involved in the various areas.

In cooperation with the School of Education, this Department also offers a program for the professional and technical training of Industrial Arts teachers for elementary and secondary schools. (See School of Education for major and minor requirements.)

These courses are available as electives to all students with the necessary pre-requisites.

102. **Welding Science and Application (1).** Lab. 3.  
A study of basic principles and application of welding and cutting processes in the fabrication of metals.
103. **Machine Tool Laboratory (1).** Lab. 3.  
Introduction to metal removal processes. A study of basic machines of production.
104. **Sheet Metal Design and Fabrication (1).** Lab. 3.  
Methods and equipment used in design, production and fabricating of sheet metal products.
105. **Foundry Technology (1).** Lab. 3.  
Basic fundamentals involved in casting products of ferrous and non-ferrous metals.
308. **Gages and Measurements (5).** Lec. 4, Lab. 2. Pr., IL 103.  
Studies in the science of measurement as applied to production and inspection of industrial products.

### Manufacturing Processes

These courses are designed to acquaint the student with the basic manufacturing processes including an analysis of machines, tools, and materials, and design of products in the respective areas indicated below:

301. **Manufacturing Processes—Casting area (3).** Lec. 3. Pr., IL 105.  
Analysis of materials, methods, and design of cast products.
302. **Manufacturing Processes—Machining area (3).** Lec. 3. Pr., IL 103.  
A study of the principles of machining metal products.
303. **Manufacturing Processes—Shaping, Forming, and Fabricating area (3).** Lec. 3. Pr., IL 102.  
A study of materials and methods involved in the production of metal products by shaping, forming, and welding processes.
405. **Problems in Welding Engineering (5).** Lec. 3, Lab. 4. Pr., IL 102.  
Advanced phases and techniques of welding and allied processes. Studies in design, weldability of metals, inspection practice, and selection of equipment.
406. **Problems in Machining (5).** Lec. 3, Lab. 4. Pr., IL 103.  
Advanced phases of metal machining with emphasis on production machines and accessories.

The following courses are designed chiefly for the preparation of teachers in Industrial Arts subjects and related fields. Some of these courses are recommended for those interested in avocational areas and hobbies.

101. **Woodworking (1).** Lab. 3.  
Introduction to machines, tools, and materials used in working with wood and plastic.
307. **General Metals (5).** Lec. 3, Lab. 4. Pr., consent of instructor.  
Design, construction and finishing art metal projects.
402. **Advanced Woodworking (5).** Lec. 3, Lab. 4. Pr., IL 101.  
Studies in design, construction, and finishing fine objects of wood.
403. **General Shops (5).** Lec. 5. Pr., senior standing.  
Problems of organization of unit shops into integrated whole for effective use in high school teaching.
415. **Shop Work for Elementary Teachers (5).** Lec. 2, Lab. 6. Pr., junior standing.  
Methods, materials, and techniques involved in conducting activity programs in schools and recreational centers.
416. **Materials of Industrial Arts (5).** Lec. 5. Pr., senior standing.  
History and use of various materials used in industry.
417. **Organization of Shop Courses (5).** Lec. 5. Pr., senior standing.  
Organization and administration of the Industrial Arts program in the public schools.
418. **Industrial Arts Design (5).** Pr., senior standing.  
Fundamentals of design as applied to Industrial Arts projects.

### GRADUATE COURSES

- 611-12. **Technical Problems in Industrial Arts (5-5).** Pr., graduate standing.  
Advanced study of technology and method in selected areas of Industrial Arts.

### Industrial Management (IM)

*Professor Lane*

*Associate Professors Cobb, Coppedge, and Layfield*

*Assistant Professors Ashworth, Bryant, Fowler, Henry, and Morgan*

302. **Production Control (5).** Lec. 4, Lab. 3. Pr., IM 306.  
Planning, scheduling, routing, and dispatching in manufacturing operations; production control systems; mechanisms for production control.
306. **Industrial Management (5).** Pr., sophomore standing.  
Fundamental principles and modern method of control in industry; evolution of industry and management; organization for control of materials, cost, production, purchasing, store-keeping, inventory, quality; labor relations, wages and rates, job analysis.
307. **Safety Engineering (5).** Pr., sophomore standing.  
Principles, practices, organizations, and procedures for industrial accident prevention and plant protection.
308. **Inventory Control (5).** Pr., IM 306 and IM 302.  
Application of principles and techniques to the programming of material requirements, procurement, storekeeping, salvage and conservation.

309. **Materials Handling (5). Pr., junior standing.**  
Materials handling equipment, methods, and systems.
310. **Methods Engineering (5). Lec. 4, Lab. 3. Pr., IM 306 and junior standing.**  
Study and practice in applying the principles which govern motion economy; work space organization; selection of materials, jigs, fixtures, and equipment; and the application of methods time measurement for the determination of the most economical method of manufacture.
311. **Time Study (5). Lec. 4, Lab. 3. Pr., IM 310.**  
Study and practice in applying the principles governing the establishment of standard data in the various forms required for methods time measurement, wage incentive organizations, budgetary planning and standard cost; and the use of time measuring equipment in problems of standard data determination.
312. **Machine Tabulation (3). General elective. Pr., junior standing.**  
Operation and maintenance of tabulating machines.
313. **Budget Control (5). Lec. 4, Lab. 3. Pr., EC 214 and IM 306.**  
Purposes, organization, preparation, and administration of industrial budgetary control of purchases, materials, labor, manufacturing expense, production, plant, and equipment.
402. **Quality Control (5). Lec. 4, Lab. 3. Pr., senior standing.**  
Statistical method of quality control for economical manufacture; inspection methods; organization and procedure for quality control; determination of sample size.
405. **Industrial Plants (5). Lec. 4, Lab. 3. Pr., EG 104, EG 105, IM 302, and IM 310.**  
Design and layout of industrial plants.
406. **Problems in Industrial Management (5). Pr., IM 302, IM 311, EC 345, and senior standing.**  
Application of fundamental principles to problems of industry as guide for decisions of management.
410. **Industrial Training (5). Pr., junior standing.**  
Methods, policies, and procedures for training executives, supervisors, technicians, foremen, workers, and apprentices in industry.
411. **Plant Location (5). Pr., junior standing.**  
Industrial surveys to determine economic location of industrial plants.
412. **Engineering Economy (5). Pr., junior standing.**  
Practical engineering studies for the economic selection of alternative structures, equipment, project, processes, and methods by comparison of costs.
413. **Sales Engineering (5). Pr., IM 306 and junior standing.**  
Application of principles and techniques to selling industrial products when a background knowledge of manufacturing processes is required.
414. **History of Management (5). Pr., junior standing.**  
A chronological account of the origin and application of the scientific approach to the control of the means of production and its contribution to industry and society.
415. **Plant Maintenance (5). Lec. 4, Lab. 3. Pr., IM 306.**  
Principles of organizing and controlling maintenance operations of industrial plants.
416. **Managerial Control (5). Lec. 4, Lab. 3. Pr., IM 306 and junior standing.**  
Principles and application of mechanizing managerial control procedures.
417. **Operations Research (5). Pr., IM 306 and senior standing.**  
Organized application of scientific methods and techniques to the study of operating problems of management.
418. **Contracts and Specifications (3). Pr., senior standing.**  
Contract documents; specification writing; professional relations.

## Laboratory Technology (LT)

*Professor Schrader*

*Instructors Attleberger and Cooper*

301. **Hematology (5). Lec. 3, Lab. 6.**  
This course involves the study, procedures, and examinations of the blood, as recommended by the American Society of Clinical Pathologists.
305. **Serology (5). Lec. 2, Lab. 6. Pr., VM 204.**  
Theory and techniques of laboratory tests based in the antigen-antibody reaction.
401. **Advanced Hematology (5). Lec. 3, Lab. 6. Pr., LT 301.**  
Advanced study of blood cells and blood dyscrasias.



402. **Seminar in Laboratory Technology (3).** Pr., LT 301.  
The student reports from the literature on recent advances in the field of laboratory technology.
405. **Advanced Serology (5).** Lec. 2, Lab. 6. Pr., LT 305.  
Theory and techniques of the serological study of human blood.
421. **Diagnostic Apparatus (5).** Lec. 2, Lab. 9. Pr., PS 206.  
Studies in the use of such hospital equipment as are used in X-ray, electrocardiographic, and basal metabolism diagnosis.
422. **Hospital Laboratory Practice (5).** Lab. 15. Pr., LT 301, LT 421.  
Practical applications of the principles, procedures, and techniques encountered in hospital laboratories.
423. **Advanced Hospital Laboratory Practice (5).** Lab. 15. Pr. LT 422.

### Library Science (LY)

- LY 101. **Use of the Library (1).** Taught by academic members of the Library staff.  
Lectures and assignments designed to facilitate use of the card catalog, periodical indexes, reference books, and the compilation of bibliographies.

### Mathematics (MH)

*Head Professor Parker*

*Professors Ball, Burton, Macon and Williams*

*Research Professor Ikenberry*

*Associate Professors Butz, Haynsworth, Perry, Robinson, and Thompson*

*Assistant Professors Baskervill, Dupree, B. Fitzpatrick, Moss, and Sanders*

*Instructors Allison, Alvord, Bass, Binkley, Crocker, Dixon, Hopper, Ivey,*

*Light, E. Major, Newman, O'Neil, and Ray*

*Graduate Assistants Anders, Atkinson, Bennett, Buntyn, Burdeshaw, Colbert,*

*Edwards, M. Fitzpatrick, Ford, Hakala, Hartwig, Hawkins, Hood, Humphrey,*

*Issos, Johnston, Lomax, Pate, Pollacia, Rice, Salzmann, Schaefer,*

*Shobe, Smith, and Spikes*

Students who contemplate careers as mathematicians should follow the curriculum found on page 186. This curriculum is designed to prepare a student for graduate work in mathematics. Because of the current emphasis on mathematics and science, numerous fellowships are available to provide capable students with financial aid to pursue graduate work leading to careers in research and college teaching, or careers in industry.

Other students in the School of Science and Literature desiring a major in mathematics should complete the sequences through MH 264 (or MH 301) during the freshman and sophomore years. At the beginning of the junior year, these students must consult the Department of Mathematics on the selection of at least four additional junior and senior mathematics courses to complete this major.

Students in the School of Education desiring a major or minor in mathematics are referred to page 141.

040. **Remedial Algebra.** Lec. 5. Non-credit.
060. **Essentials of Plane and Solid Geometry.** Lec. 5. Non-credit.  
A course for students who are deficient in high school geometry.
107. **College Algebra (5).** Pr., Departmental approval.  
Credit is not allowed for both MH 107 and MH 111.
108. **Mathematics of Finance (5).** Pr., MH 107, MH 111, or MH 160.  
Simple annuities; general annuities; sinking funds; amortization schedules; depreciation; bonds.
- 111-12. **Introductory College Mathematics (5-5).** Pr., Departmental approval. Credit in MH 111 excludes credit in MH 107.  
Logic; the number system; sets and their applications to the study of linear equations; systems of equations and inequalities; relations; functions including algebraic, exponential, logarithmic and trigonometric; graphs of relations and functions.  
This sequence emphasizes mathematical ideas as well as mathematical manipulation in preparing students for MH 161 or MH 113. It includes the material contained in standard college courses in algebra and trigonometry.
113. **Analytic Geometry (5).** Pr., MH 112 or MH 160.

127. **Elementary Mathematical Statistics (5).** Pr., MH 107, MH 111 or MH 160.  
The purpose of this course is to develop elementary statistics based on a limited mathematical background. A study of the normal, binomial, Chi square and Poisson distributions with applications to various fields is included.
160. **Introductory College Mathematics (5).** Pr., Departmental approval.  
A course to be taken in lieu of MH 111-12 by selected students.
161. **Analytic Geometry and Calculus (5).** Pr., MH 112 or MH 160. First quarter of a four-quarter sequence for technical students.
- 181-2. **Fundamental Mathematics I, II (5-5).** Pr., Two quarters of college credit.  
A study of the concepts underlying the techniques of arithmetic and algebra. Previous credit for any college mathematics course excludes credit for this course.
- 201-2. **Calculus I, II (5-5).** Pr., MH 113 for MH 201, MH 201 for MH 202.  
Differentiation and integration with applications.
- 251-2. **Analytic Geometry and Calculus I, II (5-5).** Pr., MH 112, or MH 160.  
A brief unified sequence for non-technical students. Credit in these courses excludes credit in MH 113, MH 202, MH 161, and MH 262.
- 262-3-4. **Analytic Geometry and Calculus (5-5-5).** Pr., MH 161.
301. **Calculus III (5).** Pr., MH 202.  
Infinite series, partial differentiation, multiple integrals.
331. **Higher Algebra (5).** Pr., MH 202, MH 252, or MH 263.  
Properties of integral domains with special emphasis on the arithmetic of the integers and polynomials.
- 351-2. **Finite Mathematics I, II (5-5).** Pr., Five hours credit in mathematics and junior standing for MH 351. MH 351 for MH 352.  
Laws of logic, theory of sets, probability, vectors and matrices.
361. **Differential Equations I (5).** Pr., MH 301 or MH 264.  
Ordinary differential equations with applications.
402. **Engineering Mathematics I (5).** Pr., MH 361; junior standing.  
Fourier series, Laplace transforms, partial differential equations, special functions.
403. **Engineering Mathematics II (5).** Pr., MH 361; junior standing.  
Complex numbers, functions, mappings, residues, contour integration.
404. **Engineering Mathematics III (5).** Pr., MH 361; junior standing.  
Vector analysis, with applications.
407. **Mathematics of Computers (5).** Lec. 4, Lab. 2. Pr., MH 301, 264, or 252 and departmental approval.  
Digital computers in the large; programming for large scale computers; numerical methods.
412. **Differential Equations II (5).** Pr., MH 361, or departmental approval, and junior standing.  
Linear differential equations, total differential equations, series solutions.
- 420-1. **Advanced Calculus (5-5).** Pr., MH 264 or MH 301; junior standing.  
Sets, sequences, functions, limits, continuity, derivatives, Riemann integral, series, uniform convergence.
431. **Introduction to Modern Algebra (5).** Pr., MH 331; junior standing.  
Integral domains, groups, rings, fields.
435. **Elementary Theory of Numbers I (5).** Pr., MH 331; junior standing.  
Theorems on divisibility; prime numbers; congruences; theorems of Fermat, Euler, and Wilson; power residues.
437. **Introduction to the Theory of Matrices (5).** Pr., MH 202 or MH 263; junior standing.  
Rectangular matrices and elementary transformations; equivalence of matrices and of forms; linear spaces; matrix polynomials.
443. **Topics in Geometry (5).** Pr., MH 202 or MH 263; junior standing.  
Solid analytical geometry, non-Euclidean geometry.
444. **Higher Geometry (5).** Pr., MH 202 or MH 263; junior standing.  
Axiomatic development of projective geometry with the introduction of coordinates and transformations. Euclidean, non-Euclidean and inversive geometries.
447. **Foundations of Plane Geometry (5).** Pr., MH 264 and junior standing.  
An axiomatic development of a plane geometry. Points, lines, congruences. Emphasis is placed on development of proofs by students.
461. **Numerical Analysis (5).** Pr., MH 301 or MH 264; junior standing.  
Zeros of real functions; finite differences; numerical differentiation and integration; ordinary differential equations; systems of linear equations; partial differential equations.

467. **Mathematical Statistics I (5).** Pr., MH 202 or MH 263; junior standing.  
Data in distribution functions; theoretical distribution functions; moment generating function, normal, binomial, Poisson, Student "t", chi-square and "F" distribution functions; large-sample theory; linear and curvilinear correlation.  
NOTE: Courses numbered between 480 and 489 are for majors in the School of Education.
481. **College Geometry (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.  
Classical Euclidean geometry; loci; indirect construction; the nine point circle; homothetic figures.
485. **Fundamentals of Algebra I (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.  
A study of algebra with emphasis given to the explicit statement of the postulates and the logical development from these basic assumptions.
486. **Foundations of Geometry (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.  
A study of Euclidean and non-Euclidean geometries with emphasis given to their logical development from basic assumptions. Some of the more interesting theorems of the different geometries will be discussed but no attempt will be made to develop any of the geometries completely. Some attention will be given to the history of geometry.
487. **Fundamentals of Analysis (5).** Pr., MH 202 or MH 252; junior standing.  
A study of mathematical analysis with emphasis on basic principles and relationships.

## GRADUATE COURSES

- 607-8-9. **Applied Mathematics I, II, III (5-5-5).** Pr., Approved graduate standing.  
Scalar, vector, and dyadic fields; equations governing fields; Helmholtz's and Laplace's equations in curvilinear coordinates; separation of variables; boundary conditions and eigenfunctions; Green's functions.
612. **Differential Equations III (5).** Pr., MH 620 or departmental approval.  
Existence theorems. Sturm-Liouville theory, partial differential equations.
613. **Partial Differential Equations (5).** Pr., MH 412 and MH 620.  
Linear and nonlinear partial differential equations; successive approximations; existence and uniqueness theorems.
- 620-21. **Introduction to Analysis I, II (5-5).** Pr., departmental approval.  
Real and complex number systems; elements of set theory; limits; series; continuity; differentiation; Riemann-Stieltjes integral; functions of several real variables.
- 622-23. **Functions of a Complex Variable I, II (5-5).** Pr., MH 620.  
Complex numbers; analytic functions; derivatives, Cauchy integral theorem and formula; Taylor and Laurent series; analytic continuation; residues; Maximum principle; Riemann surfaces; conformal mapping; families of analytic functions.
- 624-25. **Linear Topological Spaces I-II (5-5).** Pr., MH 621.  
Normed linear spaces, Banach spaces; bounded linear transformations; linear functionals; Riesz-representation theorem; convex sets and applications; Hilbert space.
- 626-27. **Functions of Real Variables I, II (5-5).** Pr., MH 620.  
Real number system; measurable sets; Baire classes; Lebesgue integral; properties of the integral; Stieltjes and Denjoy integral.
- 631-32. **Modern Algebra I, II (5-5).** Pr., MH 431.  
Numbers; sets; groups; rings; fields and polynomials; Galois theory.
633. **Theory of Groups (5).** Pr., MH 631.  
Sylow theory, abelian groups, chain conditions.
634. **Theory of Rings (5).** Pr., MH 631.  
Structure of rings, ideals in commutative rings.
635. **Elementary Theory of Numbers II (5).** Pr., MH 435.  
Distribution of primes; Diophantine analysis; number lattices; selected topics from classical number theory.
636. **Algebraic Theory of Numbers (5).** Pr., MH 435.  
Ideals, number fields, cyclotomic polynomials; Fermat's conjecture.
637. **Matrices (5).** Pr., MH 437.  
Special types of Matrices; reduction to canonical form; readings in current literature.
643. **Analytic Projective Geometry (5).** Pr., Departmental approval.  
Coordinates; transformations; conics; quadrics.
- 645-46. **Differential Geometry I-II (5-5).** Pr., MH 620.  
Tensor analysis; curves and surfaces in Euclidean space; introduction to Riemannian geometry of  $n$ -dimensions.
- 650-51-52. **General Topology (5-5-5).** Pr., MH 620.  
An axiomatic development of point set topology; connectivity, compactness, separability, topological equivalence, well-ordering, inner limiting sets, Cartesian products.

661. **Numerical Analysis II (5).** Pr., MH 461.  
Matrices and systems of linear equations; systems of ordinary differential equations; partial differential equations.
667. **Mathematical Statistics II (5).** Pr., MH 467.  
Multiple and partial correlation; small-sample theory; non-parametric methods; testing goodness of fit; testing statistical hypothesis; statistical design in experiments; sequential analysis.  
NOTE: Courses numbered between 680 and 689 are for majors in the School of Education.
681. **College Geometry II (5).** Pr., MH 481 or departmental approval.  
Selected advanced topics in Euclidean geometry.
682. **Applications of Mathematics (5).** Pr., approved graduate standing.  
Foundations of business mathematics and applications from annuities; depreciation systems; amortization and sinking funds; life insurance and a development of the calculus as needed.
683. **Number Systems (5).** Pr., approved graduate standing.  
A study of the properties of the integers, rational numbers, irrational numbers; Euclidean algorithm, unique factorization, the rational operations; square roots; number systems with bases other than 10.
685. **Fundamentals of Algebra II (5).** Pr., approved graduate standing.  
Not a continuation of MH 485. Basic concepts of equation theory; transformations; algebraic curves.
691. **Directed Reading in Algebra.** Credit to be arranged. Pr., 10 hours of 600 courses in the area. This includes reading in Algebra, Abstract Algebra, Matrix Theory or Number Theory.
692. **Directed Reading in Analysis.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
693. **Directed Reading in Applied Mathematics.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
694. **Directed Reading in Geometry.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
695. **Directed Reading in Topology.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter.
799. **Research and Dissertation.** Credit to be arranged.

### Mechanical Engineering (ME)

*Professors Vestal, Maynor, McKinnon, Shaw, and Tanger*  
*Associate Professors Cox, Elizondo, Fluker, Jones, Lawson, Min, Scarborough*  
*F. Smith, and Ward*

*Assistant Professors Elkayar, Harrod, Ingalls, J. Smith, and Swinson*  
*Instructors Crenshaw, Liddell, Mueller, O'Brien, Phillips, Ray, and Vance*

202. **Materials of Engineering (3).** Pr., CH 103, PS 201 or PS 205.  
Structure of materials and the theory of the relationship between structure and environment.
205. **Applied Mechanics—Statics (5).** Pr., PS 201, corequisite, MH 263.  
Resolution and composition of forces; equilibrium of force systems; friction, centroids; moments of inertia.
206. **Properties of Materials (3).** Pr., ME 202.  
Principles of properties of materials and relationships between structure, environment and properties.
301. **Thermodynamics I (5).** Pr., MH 263 and PS 202.  
A study of gas laws and vapors.
302. **Thermodynamics II (5).** Pr., ME 301.  
Thermodynamic cycles and applications of the gas laws.
306. **Strength of Materials I (5).** Pr., ME 205 and MH 263.  
Elements of stress analysis in structures and machines.
307. **Applied Mechanics—Dynamics (5).** Pr., ME 205 and MH 263.  
Types and principles of motion; action of unbalanced force systems affecting the motion of rigid bodies.
308. **ME Laboratory I (1).** Lab. 3. Corequisite, ME 302.  
Mechanical laboratory experiments and reports.

309. **Materials Testing Laboratory (1).** Lab. 3. Pr., ME 306.  
Testing of engineering materials in tension, in compression, and for hardness.
310. **Thermodynamics (5).** Pr., MH 263 and PS 202.  
A study of gases and vapors, cycles, mass and heat transfer. (For non-Mechanical Engineering students only.)
311. **ME Laboratory II (1).** Lab. 3. Pr., ME 302 and ME 308.  
Mechanical Engineering Laboratory experiments and reports.
313. **Fluid Mechanics (5).** Pr., ME 307 and ME 302 or ME 310.  
Statics and dynamics of compressible and incompressible fluids.
316. **Strength of Materials II (5).** Pr., ME 306.  
Advanced stress analysis; combined stresses; elastic stability.
319. **Elementary Heat Power (5).** Pr., CH 104, PS 205, MH 252.  
Introduction to power plant equipment, fuels and combustion, spark ignition and compression ignition engines, steam and gas cycles. (For non-Mechanical Engineering students only.)
320. **Elementary Machine Design (5).** Pr., EG 204, ME 306.  
Design of the basic machine elements including selected parts from current manufacturing practice. Use of empirical equations in design. (For non-Mechanical Engineering students only.)
322. **Elementary Machine Design Laboratory (2).** Lab. 6. Pr., ME 320.  
Problems involving the synthesis of the machine elements discussed in ME 320. (For non-Mechanical Engineering students only.)
405. **Air Conditioning (5).** Pr., ME 302 or ME 310, and junior standing.  
Theory and design of heating, cooling, and ventilating systems.
410. **Power Plants (5).** Pr., ME 302 and senior standing.  
Power plants and components; fuels and combustion; elements of design.
411. **ME Laboratory III (2).** Lec. 1, Lab. 3. Pr., ME 311 and ME 412.  
Advanced experiments in ME Laboratory and reports.
412. **Internal Combustion Engines (5).** Pr., ME 302 or ME 310 and junior standing.  
Thermodynamics, design, and performance of Otto and Diesel engines; fuels and combustion.
414. **Turbomachines (5).** Pr., ME 313 or CE 308, junior standing.  
The application of fluid mechanics to turbomachines, such as pumps, turbines, and fluid couplings; control devices.
415. **Refrigeration (5).** Pr., ME 302 or ME 310 and junior standing.  
Theory and design of commercial and residential refrigerating systems.
421. **Heat Transfer (5).** Lec. 4, Lab. 3. Pr., ME 302, ME 313 or AE 301, EE 320, MH 402, senior standing.  
Fundamental principles of heat transfer by steady and unsteady conduction, thermal and luminous radiation, boiling and condensation, free and forced convection.
424. **ME Laboratory IV (2).** Lec. 1, Lab. 3. Pr., ME 311 and ME 410.  
Advanced experiments in ME Laboratory and reports. (No graduate credit permitted for M.M.E.)
425. **Gas and Steam Turbines (5).** Pr., ME 302 and senior standing.  
Thermodynamic theory and design of nozzles and blade paths for gas and steam turbines.
426. **Steam Turbines (5).** Pr., ME 302 and senior standing.  
Thermodynamic theory and design of steam turbines.
427. **Mechanical Vibrations (5).** Pr., ME 306, ME 307, and junior standing. Pr., or Coreq., MH 402.  
Theory of vibration of systems of one or more degrees of freedom, with and without damping; systems with distributed constants and self-induced vibration.
429. **Power Plant Design (5).** Pr., ME 410 and junior standing.  
Design problems and layout of a power plant.
430. **Internal Combustion Engine Problems (5).** Pr., ME 302, ME 412.  
Application of internal combustion engine theory to the design of engines.
432. **Automatic Controls (5).** Pr., MH 361, ME 307, ME 313, EE 331, and junior standing.  
Process analysis; methods of control; closed loop in control; feedback systems; analysis of system problems.
434. **Fluid Mechanics and Heat Transfer (5).** Pr., ME 310 and junior standing.  
The mechanics of compressible and incompressible fluids and the transmission of heat by conduction, convection, and radiation. (For non-Mechanical Engineering students only.)
435. **Metallurgy (4).** Lec. 3, Lab. 3. Pr., ME 206, ME 306, and junior standing.  
Fundamentals of diffusion, phase transformation and the theory of heat treatment as related to ferrous and non-ferrous metal systems.

436. **Ferrous Metallurgy (5).** Pr., ME 435 or ME 406, and junior standing. (Credit in ME 406 excludes credit in ME 436.)  
Recent trends and developments in ferrous metallurgy and advanced consideration of the subject matter of ME 435.
437. **Nonferrous Metallurgy (5).** Pr., ME 435 or ME 406, and junior standing.  
Recent trends and developments in nonferrous metallurgy and advanced consideration of the subject matter of ME 435.
439. **Machine Design I (4).** Lec. 3, Lab. 3. Pr., ME 206, ME 306.  
Design of machine elements with emphasis on the analysis of static stresses.
440. **Machine Design II (4).** Lec. 3, Lab. 3. Pr., ME 439, ME 316; Pr., or Coreq., ME 427.  
Design of machine elements with emphasis on the analysis of dynamic stresses and creative design.
441. **Engineering System I (5).** Lec. 4, Lab. 3. Pr., senior standing and approval of Department Head.  
Typical problems requiring the development of skill in the use of analysis, synthesis and creativeness to design, evaluate, and optimize engineering systems.
442. **Engineering Systems II (5).** Lec. 4, Lab. 3. Pr., ME 441.  
A continuation of ME 441.
450. **Special Problems.** (Credit 1-5). Pr., Department Head approval, junior standing.  
Individual student endeavor under staff supervision involving special problems of an advanced nature.

#### GRADUATE COURSES

601. **Steam Engineering (5).** Pr., ME 410.  
Course includes power plant problems, steam turbine analysis, and an advanced study of steam machinery.
604. **Advanced Thermodynamics (5).** Pr., ME 302.  
Study of advanced theory and problems.
605. **Advanced Internal Combustion Engines (5).** Pr., ME 412.  
Advanced study of design and performance of all types of internal combustion engines.
606. **Gas Turbines (5).** Pr., ME 302 and ME 425.  
Analysis of gas turbine cycles, media, combustion, and operation.
607. **Advanced Strength of Materials (5).** Pr., ME 316.  
Elastic energy methods, elastic and plastic deformation, thin shells and plates, and other advanced topics.
608. **Advanced Dynamics (5).** Pr., ME 307.  
Advanced problems and theory.
609. **Advanced Refrigeration (5).** Pr., ME 415.  
Theoretical aspects of media and systems.
610. **Advanced Heat Transfer (5).** Lec. 4, Lab. 3. Pr., ME 421 and MH 361.  
Advanced theory and problems in heat transfer.
612. **Engineering Analysis (5).** Pr., MH 361 and ME 307.  
Analysis of complex engineering problems and physical principles; transient and steady-state conditions; applications to heat transfer, dynamics, and other system analysis.
614. **Theory of Plates and Shells (5).** Pr., MH 361 and ME 316 or CE 401.  
Bending stresses and deformation in flat plates and theory of curved shells.
615. **Experimental Research Methods (5).** Pr., Approved graduate standing.  
Measurement techniques, error analysis, electronic and optical instrumentation, control circuits, data analysis and reduction.
690. **Seminar.** Credit to be arranged. May be taken more than one quarter.
699. **Thesis.** Credit to be arranged. May be taken more than one quarter.

### Military Science (MS)

#### Program of Instruction

#### BASIC COURSE

First Year (Freshmen) MS 101 (2 class, 2 drill periods) (1 credit)

Organization of the Army and ROTC  
Individual Weapons and Marksmanship

United States Army and National Security  
Leadership Laboratory (Drill)

(Approved Academic Subject, see page 171.)

MS 102, MS 103 (Drill only) (1 credit each)



Second Year (Sophomores) MS 211, 212, 213; or MS 221, 222, 223; or MS 241, 242, 243; or MS 251, 252, 253. (2 class, 2 drill periods) (1 credit each)

Map and Aerial Photograph Reading  
U.S. Army and National Security

Introduction to Branch Tactics and Techniques  
Leadership Laboratory (Drill)

## ADVANCED COURSE

### Third Year (Juniors)

Each branch teaches the same general subjects with emphasis on its application to the particular Branch—Armor, Artillery, Corps of Engineers, or Signal Corps.

The blocks of instruction are: Leadership; Military Teaching Principles; Branch Tactics; and Pre-Camp Orientation. All classes meet 4 days per week per quarter with 2 drill periods per week; 3 credits per quarter.

MS 311, 312, 313—Artillery

MS 321, 322, 323—Corps of Engineers

MS 341, 342, 343—Signal Corps

MS 351, 352, 353—Armor

### Fourth Year (Seniors)

Each branch as in MS 3, teaches the same general subjects with emphasis upon application to the particular branch.

Blocks of instruction are: Operations\*; Logistics\*; Military Administration; Military Law; The Role of the United States in World Affairs; Service Orientation; Branch Tactics; Leadership Laboratory (Drill).

All classes meet 4 hours per week per quarter with 2 drill periods per week; 3 credits per quarter.

MS 411, 412, 413—Artillery

MS 421, 422, 423—Corps of Engineers

MS 441, 442, 443—Signal Corps

MS 451, 452, 453—Armor

## Music (MU)

*Head Professor Liverman*

*Professors Glyde and Hinton*

*Associate Professors Bentley and Tamblyn*

*Assistant Professors Collins, Hankenson, Koper, Renard, and Rice*

*Instructor Richardson*

131-32-33. Music Theory I-II-III (3-3-3). Pr., MU 102 or by permission.

An integrated course in the development of listening, performing, and writing techniques; elementary diction, analysis, music reading, and diatonic harmony.

151-52-53. Survey of Music Literature (1-1-1). Lec. and Lab. 3-3-3.

The presentation of vocal solo and choral, keyboard and chamber music, acquainting the student with musical compositions and composers with emphasis on music literature of the past three centuries.

231-32-33. Music Theory IV-V-VI (3-3-3). Pr., MU 133.

A continuation of composite theory through chromatic harmony; analysis of larger forms; continued music reading and keyboard harmony.

251-52-53. Survey of Music Literature (1-1-1). Lec. and Lab. 3-3-3.

The presentation of instrumental solo, opera and symphonic music, acquainting the student with musical compositions and composers with emphasis on music literature of the past three centuries.

254. Music Literature for Music Education Majors (3).

A general survey of choral and instrumental literature. (This course excludes credit for MU 151-52-53, 251-52-53 Survey of Music Literature.)

331-32-33. Modern Harmony I-II-III (3-3-3). Pr., MU 233.

Twentieth-century harmonic devices. An integrated approach to understanding contemporary writing, with emphasis on original work and analysis of the principal departments from "traditional" harmony.

334-35-36. Counterpoint I-II-III (3-3-3). Pr., MU 233.

I. Strict Counterpoint. Counterpoint in 5 species in 2 or 3 voices concluding with invertible counterpoint. II. Tonal counterpoint. Contrapuntal devices of the 18th Century including double counterpoint and imitation. III. Invention and Fugue. The study and writing of 2 part inventions, canonic treatment, and the 3 voice fugue.

\* In Corps of Engineers these are grouped under Engineer Tactics and Techniques.

**351-52-53. Music History I-II-III (3-3-3).**

The development of music from early times to the present day. Lectures, recorded examples, readings.

**361-62-63. Conducting I-II-III (3-1-1). Pr., MU 133.**

I. Elementary basic baton techniques and introduction to score reading. II. Choral conducting. Elementary course in choral score reading and conducting choir and glee clubs. III. Instrumental conducting. Elementary course in instrumental score reading and conducting band, orchestra and instrumental ensembles.

**409. Marching Band Techniques (5).**

A study of fundamental methods and procedures of the Marching Band.

**411-12-13. Tuning and Repairing Pianos (1-1-1). Lab, 3-3-3. Pr., senior standing.**

Basic principles of piano tuning such as tuning unisons, octaves, setting temperaments, etc., simple action and damper repair, action regulating and the replacing of strings and worn-out parts which can normally be done by the music instructor.

**414. Care and Repair of Musical Instruments (1). Lec. 1, Lab. 3. Pr., senior standing.**

The selection, care and repair of woodwind, brass and string instruments with emphasis on adjustments which should be made by the instrumental director.

**417-18-19. Mechanics of the Organ (1-1-1). Lab, 3-3-3.**

A course in organ construction including inspection of various types of organs with a view to preparing the organist to make minor repairs and adjustments.

**431-32-33. Music Analysis (3-3-3). Pr., senior standing.**

Harmonic and structural analysis of smaller instrumental forms; harmonic and structural analysis of the larger polyphonic and homophonic forms.

**434-35-36. Music Composition I-II-III (3-3-3). Pr., MU 233.**

The analysis, study, and writing of musical compositions in small, compound, and larger musical forms with emphasis on both stylistic and individual creative writing.

**437-38-39. Orchestration I-II-III (3-3-3). Pr., MU 233.**

Ranges, notation, and characteristics of orchestral instruments. Exercises in arranging for combinations of string and wind instruments. Theory and practice of orchestration for full orchestra.

**441. Piano Pedagogy (3).**

A course for prospective piano teachers. Study of teaching methods for beginners and succeeding levels. Classification and analysis of teaching repertoire.

**442. Vocal Pedagogy (3).**

A course for prospective voice teachers. An intensive study of the materials and methods of voice training. Classification and analysis of teaching repertoire.

**443. String Pedagogy (3).**

The mechanics of stringed instruments. Teaching methods, schools, and systems. Teaching literature and repertoire.

**444. Instrumental Pedagogy (3).**

The mechanics of brass or woodwind instruments. Teaching methods and repertoire with emphasis on solo instrumental literature.

**445. Theory Pedagogy (3).**

Course required of seniors majoring in theory and composition. Designed to present the problems of sightsinging, rhythmic dictation, melodic and harmonic dictation, and part writing from a pedagogical viewpoint. Intensive review of harmony and dictation, together with a survey of several of the most commonly used texts.

**451. Keyboard Literature (3). Pr., junior standing.**

A study of the masterworks of the clavichord, harpsichord, organ, and piano literature from the Baroque period to the present.

**452. Vocal Literature (3). Pr., junior standing.**

A course presenting vocal literature from Elizabethan time to the present, including representative European and American repertoire.

**453. Choral Literature (3). Pr., junior standing.**

A chronological study of choral music from the Middle Ages to the present including opera, and oratorio with detailed examination of representative works.

**454. Instrumental Literature (3).**

Analysis and study of orchestral scores and parts from the classic, romantic and modern literature.

**General Elective Courses****371. Introduction to Music (3). No credit allowed to Music Majors and Minors.**

An introductory course in the understanding of music including an explanation of basic terms, notations, rhythm, tonal system, vocal and piano score reading.

372. **Music in the Western Civilization (3).** May not be taken for credit by Music Majors or Minors.  
Music as related to the philosophical, economical and social growth of our culture from the Roman Empire to the 20th Century.
373. **Appreciation of Music (3).** May not be taken for credit by Music Majors or Minors.  
Outstanding composers and compositions. No previous music training required; an orientation in the art of listening.
374. **Masterpieces of Music (3).** May not be taken for credit by Music Majors or Minors.  
A study of the representative musical works of each great period of musical history. No previous music training required.
375. **History of Jazz (3).** May not be taken for credit by Music Majors or Minors.  
A study of the origin, development and styles of jazz music; people important in the development of American jazz music.
376. **Music for Ballet and Theatre (3).** May not be taken for credit by Music Majors and Minors.  
A survey of outstanding musical scores in the field of ballet and the theatre with special emphasis on the modern American musical theatre.
377. **Music Arranging (3). By permission.**  
A project course in arranging various combinations from quartet to symphonic band, and arranging for solo and choral groups.

### Group Performance Courses\*

- 121-22-23. **Glee Club (1 hour credit per quarter).**  
The MEN'S GLEE CLUB and the WOMEN'S GLEE CLUB are study and performing groups open to any Auburn student. No previous experience in group singing is required. Glee Club may be taken with or without credit.
- 221-22-23. **Mixed Chorus (1 hour credit per quarter).**  
The MIXED CHORUS is a large performing group open to any Auburn student. No previous experience in group singing is required. This group annually performs Handel's "Messiah," and other large choral compositions. Mixed Chorus may be taken with or without credit.
- 321-22-23. **Concert Choir (1 hour credit per quarter).**  
The CONCERT CHOIR is a smaller mixed chorus for the study and performance of serious choral literature; open to any Auburn student by audition only. Concert Choir may be taken with or without credit.
- 124-25-26. **Concert Band (1 hour credit per quarter).**  
Members of the Band are selected during the first week of each quarter at the regular meeting hour. The Band will require a minimum of 5 rehearsal hours per week from all members. Extra rehearsals may be scheduled as necessary. Band members will be required to be present at all rehearsals and all public performances. The Concert Band may normally be expected to perform at two campus programs and one concert tour each year. The Concert Band may be called upon from time to time to serve as a marching organization for various public parades. Concert Band may be taken with or without credit.
- 127-28-29. **Orchestra (1 hour credit per quarter).**  
Members of the symphonic orchestra are selected by try-outs held during the first week of each quarter at the regular meeting hour. Orchestra may be taken with or without credit.
- 224-25-26. **Marching Band (1 hour credit per quarter).**  
This band provides music for the athletic contests and half-time shows at football games as well as various parades, pep rallies, and other campus and off-campus events which use marching band. The Marching Band, during the fall quarter, will rehearse a minimum of 9 hours per week. Physical Education may be waived for students during the fall quarter in which they are members of the Marching Band. (See Band Director for details.) Marching Band may be taken with or without credit.
- 227-28-29. **Opera Workshop (1 hour credit per quarter).**  
The Opera Workshop is open to all students interested in any phase of opera, including performance, stage-craft, make-up, conducting, and coaching. A minimum of three hours per week rehearsal or stage-craft is required and extra time may be scheduled as necessary. Opera Workshop may be taken with or without credit.

\* With the Dean's approval maximum credit permitted for regular college students in Group Performance Courses is 6 quarter hours; for Music Majors, 12 quarter hours.

**324-25-26. Music Ensemble (1 hour credit per quarter). (By permission.)**

A course primarily for advanced musicians for the study and performance of musical compositions for small instrumental and vocal groups requiring a minimum rehearsal of three hours per week. Music Ensemble may be taken with or without credit.

**327-28-29. Piano Ensemble (1-1-1). Lab. 3-3-3.**

Study through performance of original compositions and transcriptions for piano-four-hands and two pianos using two to four players.

**Applied Music\*\*****Piano****081-82-83. Elementary Piano (No credit).**

General keyboard facility, sight reading of folk tunes and easier classics; repertory of simple piano material; harmonization and transposition of folk tunes and familiar songs; elementary improvisation.

**181-82-83. Intermediate Piano (1, 2, or 3 hrs. per quarter). Pr., MU 043 or 105.**

Individual instruction in piano. The student is trained in correct touch and reliable technique, by playing correctly all major and minor scales in moderately rapid tempo, broken chords in octave positions in all keys by establishing systematic methods of practice and by performing typical standard etudes, such as: Czerny, op. 299, Book 1; Heller, Op. 46 and 47; Bach, Little Preludes; a few Bach Two-part Inventions; and compositions corresponding in difficulty to Haydn Sonata No. 11, G Major No. 20 (Schirmer); Mozart, Sonata C. Major No. 3, F Major No. 13 (Schirmer); Beethoven, Variations on Nel cor piu, Sonata Op. 49, No. 1; Schubert, Impromptu. Op. 142 No. 2, etc.

**281-82-83. College Piano I (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 143.**

Bach, French Suites, and Two-part Inventions; Czerny, Studies; Beethoven, Sonatas in grade of difficulty to Op. 14 No. 1; Romantic and Contemporary pieces recommended by the instructor.

**381-82-83. College Piano II (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 243.**

Bach, Well Tempered Clavichord, Three-part Inventions; Czerny, Studies, Op. 740; Beethoven, Sonatas in grade of difficulty to Op. 2, No. 1; Romantic and Contemporary pieces.

**481-82-83. Advanced College Piano (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 343.**

Bach, Well Tempered Clavichord; Chopin, Etudes; Brahms, Schumann and more advanced work in Romantic and Contemporary composers.

**Voice****084-85-86. Elementary Voice (No credit).**

First principles of voice production, diction and singing; song material for development toward performance. Exercises for voicing and facility; correct posture and breathing.

**184-85-86. Intermediate Voice (1, 2, or 3 hrs. per quarter). Pr., MU 046 or 108.**

Individual instruction in singing. The student is trained to sing on pitch with correct phrasing and musical intelligence standard songs in good English (the simplest classics are recommended). The singing of simple songs at sight is stressed. Some knowledge of piano is urgently recommended.

**284-85-86. Voice I (1, 2, or 3 hrs. per quarter). Pr., Acceptable singing of songs from MU 146.**

The study of tone production, vocal resonance and mastery of correct breathing, vowels and consonants in their relation to the singing and speaking voice; vocalises and arpeggios; songs of moderate difficulty in correct intonation and interpretation. Italian classics recommended.

**384-85-86. Voice II (1, 2, or 3 hrs. per quarter). Pr., Acceptable singing of songs from MU 246.**

Continuation of the study of voice production, drill in diction and phrasing. French, German or Italian art songs. Contemporary American composers. Oratorio or Opera Arias.

**484-85-86. Advanced Voice (1, 2, or 3 hrs. per quarter.) Pr., Acceptable singing of works from MU 346.**

A thorough study of song literature, including the works of Brahms, Schumann, Wolf, Schubert, and French masters. Concentration of perfecting vocal techniques on performer's level.

\*\* Only MU majors in Bachelor of Arts or Bachelor of Music curricula may receive more than 1 hour credit per quarter for each applied music course.

## Organ

## 087-88-89. Elementary Organ (No credit).

An introduction to organ playing: Jennings, *First Elements of Organ Technics*. Studies for manuals and pedals. The technique of hymn-playing, Telemann, Choral Preludes.

## 187-88-89. Intermediate Organ (1, 2, or 3 hrs. per quarter). Pr., MU 049 or equivalent.

Technical studies for manuals and pedals. Elementary improvisation. Transcription at sight from simple piano accompaniments. Bach, short Preludes and Fugues (E Minor, G Minor); Choral Preludes for manuals.

## 287-88-89. College Organ I (1, 2, or 3 hrs. per quarter). Pr., MU 149 or equivalent.

Continued improvisation and technical studies. Principles of modulation. Bach, short Preludes and Fugues, Choral Preludes from "The Liturgical Year." Reger, Choral Preludes.

## 387-88-89. College Organ II (1, 2, or 3 hrs. per quarter). Pr., MU 249.

Technical equipment for organ works of more than medium difficulty. Bach, Choral Preludes, Prelude and Fugue in E Minor, Fugue in G Minor; Mendelssohn, Second Sonata; Franck; Prelude, Fugue and Variations. Selected works by Buxtehude, Liszt, Rheinberger, Karg-Elert, Guilman and others.

## 487-88-89. Advanced Organ (1, 2, or 3 hrs. per quarter). Pr., MU 349.

Senior course embracing the more difficult organ literature, such as the larger works of Bach; Mendelssohn, Preludes and Fugues, and Sonatas; Franck, Choral, Organ Symphonies by Widor and Vierne. Modern compositions and shorter recital pieces.

## Instrumental

## Strings

## 091-92-93. Elementary Strings (No credit).

Rudiments of producing tone, bowing, fingering and scales in one octave, as found in the first position. Simple pieces and studies.

## 191-92-93. Intermediate Strings (1, 2, or 3 hrs. per quarter). Pr., MU 093.

Individual instruction in playing a selected instrument in strings. The student is trained in technical facility in major and minor scales, and arpeggios in all scales, and in simple solo works. For violin, such pieces will be of the difficulty of: Kreutzer Etudes, No. 1-32; the Viotti Concerto, No. 23; the deBeriot Concerti, No. 7 and 9; and the Tartini G minor Sonata. For other string instruments, pieces of a comparable level will be selected.

## 291-92-93. Strings I (1, 2, or 3 hrs. per quarter).

Mastery of techniques for scales and broken chords in three octaves. Continued study in solo playing. Violin etudes; Kreutzer, Fiorillo, Mazas. Pieces of medium difficulty; Mozart, Handel and Schubert sonatas. Concerti: Vivaldi, A minor, Viotti No. 22, Mozart M major, deBeriot Nos. 7 and 9.

## 391-92-93. Strings II (1, 2, or 3 hrs. per quarter).

Scales and broken chords at increased tempo, double stops. Etudes: Shode, Rovelli, Wieniawski. The easier Bach sonatas for violin and piano; Spohr concerti No. 2, 6, 9. All students should give evidence of ability to read at sight compositions of moderate difficulty, and should demonstrate ability in ensembles, and symphonic works.

## 491-92-93. Advanced Strings (1, 2, or 3 hrs. per quarter).

A thorough study of the virtuoso instrumental literature. Etudes: Wieniawski, Locatelli caprices. Bach solo sonatas, Paganini caprices. Concerti: Mendelssohn, Lalo, St. Saens.

## Woodwind

## 094-95-96. Elementary Woodwind (No credit).

Tone production, fingering and scales in simple keys.

## 194-95-96. Intermediate Woodwind (1, 2, or 3 hrs. per quarter).

Training in facility and control of intonation, embouchure, phrasing and control.

## 294-95-96. College Woodwind I (1, 2, or 3 hrs. per quarter).

Continued study for students who have had foundational training. The student finishing this course should be able to play 1st chair parts in school bands or 2nd chair parts in school symphonies. Studies: Klose, Book 1 for clarinets; Nieman-Labate for Oboe; Pares for Flute and Weissenborn (1st half) for Bassoon.

## 394-95-96. College Woodwind II (1, 2, or 3 hrs. per quarter).

Further study in technical methods outlined above. Special stress on expression, and interpretation; solo passages from standard symphonic work.

## 494-95-96. Advanced Woodwind (1, 2, or 3 hrs. per quarter).

Advanced study with special emphasis on training in outstanding pieces of literature; designed to prepare the student for his major Senior Recital, as well as the mastery of his instrument.

## Brass

**097-98-99. Elementary Brass (No credit).**

Rudiments of tone production, fingering, and reading music.

**197-98-99. Intermediate Brass (1, 2, or 3 hrs. per quarter).**

Development of tone production and special techniques of the individual instrument; including scale and chord work in all major keys.

**297-98-99. College Brass I (1, 2, or 3 hrs. per quarter).**

Scales and chord work in all keys, technique exercises of medium difficulty, and some work in easy literature.

**397-98-99. College Brass II (1, 2, or 3 hrs. per quarter).**

Continuing techniques study involving difficult etude study, flexibility exercises, and difficult scale and chord work in all keys. Literature study of medium and medium difficult works written by the master composers.

**497-98-99. Advanced Brass (1, 2, or 3 hrs. per quarter).**

Continuing literature study involving the most difficult of the great works for the instrument; development of a high degree of musicianship to prepare the student for public performance.

Courses in Applied Music are open to any student of the institution upon permission of the head of the department. Courses may be taken with or without academic credit. Admission to courses on the 200, 300, and 400 levels will be granted only after the student has demonstrated fulfillment of the prerequisite by passing satisfactorily a performance test based on typical exercises and compositions selected from the preceding course.

Since achievement in music is cumulative, it will normally take three quarters of study to meet the requirements for each successive grade of execution. These requirements conform to standards established by the National Association of Schools of Music.

Each course in Applied Music with an individual instructor is based on one half-hour lesson per week for the academic quarter. Many students, however, desire two half-hour lessons per week. Such an arrangement is advantageous to the student and can be made, but it does not carry additional credit.

The amount of credit in Applied Music is based on the following practice schedule:

- 1 cr. hr.—4 hours weekly practice
- 2 cr. hrs.—8 hours weekly practice
- 3 cr. hrs.—12 hours weekly practice

Only MU students in the BA or BM degree curricula may receive more than 1 hour credit per quarter for each applied music course.

**Applied Music Fees (Per Quarter)**

One half-hour lesson per week	\$20.00
Two half-hour lessons per week	30.00
Class instruction in piano, etc.	5.00
Use of practice room, one hour per day	3.00
Use of practice room, two hours per day	5.00
Instrument rental	3.00

**Class Instruction in Applied Music**

The Music Department offers a number of classes in Applied Music open to Music Majors and Minors and to regularly registered college students who have had previous music training. These classes meet two hours per week and carry one hour credit. Tuition fee \$5.00. (Minimum of 12 students per class.)

**101-2-3. Organ Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to organ playing.

**104-5-6. Piano Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to piano playing. (See above for fee.)

**107-8-9. Voice Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to piano playing. (See above for fee.)

**110-11-12. String Instruments Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to violin, viola, cello and contrabass playing. (See above for fee.)



**113-14-15. Brass Instruments Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to playing on trumpet, trombone and other brass instruments. (See above for fee.)

**116-17-18. Woodwind Instruments Class (1-1-1). (2-2-2 lec. and lab.).**

Class instruction and practice in the rudiments of music as applied to playing on clarinet, oboe, bassoon, flute and other woodwind instruments. (See above for fee.)

**119. Percussion Instruments Class (1). (2 labs.)**

Class instruction and practice in the rudiments of music as applied to playing percussion instruments; drums, bells, cymbals, triangles, tympani, etc. (See above for fee.)

**GRADUATE COURSES****600. Music in the Culture (5).**

A study of esthetic values in the contemporary scene with particular emphasis on music as it fits in the social scheme.

**601-2. Advanced Musical Analysis (5-5).**

A comparative study of the functional aspects of music analysis. Examples from a variety of great music literature are studied by score and recording.

**603. Brass Instruments Techniques (1). Lec. 1, Lab. 3.**

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on brass instruments.

**604. Woodwind Instruments Techniques (1). Lec. 1, Lab. 3.**

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on woodwind instruments.

**605. Percussion Instruments Techniques (1). Lec. 1, Lab. 3.**

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on percussion instruments.

**621. Instrumental Music Literature (5).**

A study through performance and listening of the great instrumental music from the Renaissance to the present to acquaint musicians with original music for the various media, including solos, small and large ensembles, string and wood.

**641-2-3. Graduate Study in Applied Music (1-1-1).**

Advanced private study to further the self-improvement and skill in the graduate students' performing medium. (Special fee—see under Applied Music Fees.)

**661-2. Advanced Instrumental and Choral Conducting (1-1). Lec. 1, Lab. 2.**

Advanced conducting skills in handling instrumental and choral groups, problems in conducting and score reading along with desirable baton techniques.

**665-6. Scoring for Instruments (5-5).**

Practical arranging and transcription for use in all musical situations including beginners, and marching bands. Each individual will choose his own project. May be substituted for MU 601-2.

**699. Research and Thesis (credit to be arranged).****Naval Science (NS)**

(List of courses will be found on page 177.)

**Pharmacy (PY)<sup>†</sup>**

*Professors Coker, Hargreaves, and Hocking  
Associate Professors Rash, Williams, and Head  
Instructor Draper*

**Pharmacy**

*Associate Professor Rash  
Instructor Draper*

**101. Introduction to Pharmacy (3).**

Orientation and general survey of the scope of pharmacy, its organizations and literature with a brief introduction into principles of pharmacy.

<sup>†</sup> Each student registered in a pharmacy course which has a laboratory in connection with it will have to purchase a punch card from cashier's office before he will be assigned a desk.

102. **Pharmaceutical Arithmetic (5).** Pr., PY 101.  
Calculations necessary to the practice of pharmacy. Among the topics treated are weights and measures, specific gravity, specific volume, percentage solutions, concentration and dilution, alligation and commercial calculations.
202. **Pharmaceutical Terminology (2).** Pr., third year standing.  
Common terms and abbreviations used in the professional and scientific aspects of pharmacy and medicine.
203. **Pharmaceutical Technology (5).** Lec. 3, Lab. 6. Pr., CH 103-104, PY 101.  
Consists of a study of the aspects of metrology as related to pharmacy, the general physical properties of drugs, and the physics of solutions, extraction, sterilization, and preservation. The laboratory is designed to permit limited controlled experiments verifying fact and illustrating theory presented in lecture.
205. **History of Pharmacy (3).** Pr., PY 101.  
A general survey of the history of pharmacy designed to provide a knowledge of the heritage of the profession.
303. **Pharmaceutical Technology (5).** Lec. 3, Lab. 6. Pr., PY 203.  
Official preparations are discussed with regard to their general pharmaceutical aspects with emphasis on chemistry and posology. The laboratory consists of the preparation of official and non-official products selected for the special techniques and skills involved.
304. **Physical Pharmacy (4).** Lec. 3, Lab. 3. Pr., PY 303.  
Pharmaceutical applications of lyophilic colloids, surfactants, hydrogen ion concentration and tonicity to emulsions, suspensions, and solutions.
308. **Hospital Pharmacy Administration (3).** Pr., fourth year standing.  
The development of hospitals, their place in society, importance and place of pharmacy in hospitals, administrative and policy making aspects together with interdepartmental relationships.
400. **Dispensing Pharmacy I (5).** Lec. 3, Lab. 6. Pr., PY 304.  
The compounding of prescriptions of an elementary nature, illustrating virtually all types of prescriptions.
401. **Dispensing Pharmacy II (5).** Lec. 3, Lab. 6. Pr., PY 400.  
Advanced dispensing pharmacy and prescription laboratory. Prescriptions of an advanced nature are compounded. Special attention is given to the subject of incompatibilities.
402. **Dispensing Pharmacy III (5).** Lec. 3, Lab. 6. Pr., PY 401.  
Practical pharmaceutical compounding and dispensing, related to modern drug outlets. Certain aspects of drug detailing will be discussed.
409. **Applied Hospital Pharmacy (3).** Lec. 1, Lab. 6. Pr., PY 303, PY 400 and junior standing.  
The application of pharmaceutical practices and procedures to hospital pharmacy.
410. **Advanced Dispensing Pharmacy (5).** Lec. 3, Lab. 6. Pr., PY 401.  
The more complex problems in dispensing pharmacy with correlated laboratory work.
411. **Survey of Pharmaceutical Manufacturing (3).** Lec. 2, Lab. 3. Pr., PY 304.  
Manufacturing procedures and operations. In the laboratory selected large scale production problems are carried out to completion.
412. **Public and Professional Relations (3).** Pr., fourth year standing.
413. **Special Problems (1-3).** Pr., fourth year standing.
414. **Pharmaceutical Specialties (3).** Pr., fifth year standing.  
The more important non-official specialties available to modern prescription practice and over-the-counter sales are studied.

#### COURSES FOR GRADUATE STUDENTS

601. **Sterile Solutions and Ampuls (3).** Lec. 1, Lab. 6. Pr., PY 401.  
Production of both large and small volume parenteral solutions.
602. **Tablet Manufacture (3).** Lec. 1, Lab. 6. Pr., PY 401.  
Essentials in the manufacture and coating of compressed tablets.
603. **Product Development (3).** Lec. 1, Lab. 6. Pr., consent of instructor.  
Formulation, evaluation and materials costs of pharmaceutical and cosmetic preparations.

### Pharmaceutical Chemistry

*Professor Hargreaves*  
*Associate Professor Head*

201. **Inorganic Pharmaceutical Chemistry (5).** Pr., CH 205-206.  
The official inorganic chemicals; their manufacture, chemical properties, pharmaceutical and therapeutic uses, doses and preparations. Tests for identity and purity, together with assay methods are considered.

301. **Organic Pharmaceutical Chemistry (5).** Pr., PY 201, CH 207-208.  
The official organic chemicals; their manufacture, chemical properties, trade names, pharmaceutical and therapeutic uses, doses and preparations.
302. **Organic Pharmaceutical Chemistry (5).** Pr., PY 301.  
A continuation of PY 301.
305. **Pharmaceutical Assay (5).** Lec. 2, Lab. 9. Pr., CH 206, CH 208.  
Pharmaceutical assay procedures not covered in general quantitative analysis, physical and chemical constants of fatty oils, proximate assay of vegetable drugs, official arsenic test, alcohol determination, alkaloidal chemistry and the assay of alkaloidal drugs.
403. **Toxicology (5).** Pr., PY 406, CH 208.  
Fundamentals of the isolation, identification, symptoms and treatment of the more common poisons.
404. **Chemistry of Natural Products (5).** Pr., PY 302.  
Chemistry and nomenclature of fatty oils, volatile oils, steroids, glucosides, alkaloids, and other natural plant products.
421. **Advanced Inorganic Pharmaceutical Chemistry (5).** Pr., PY 201 and junior year standing.  
A critical study of the commercial aspects of chemicals of medical interest, radioactivity and the preparation, handling and use of isotopes used as diagnostic or therapeutic agents.

## COURSES FOR GRADUATE STUDENTS

620. **Chemistry of Synthetic Drugs (5).** Pr., PY 301 and PY 302.  
Historical development of medical chemistry, relation of chemical structure and biological activity, physical properties and biological activity, general anesthetics, local anesthetics, hypnotics and sedatives, anti-convulsant drugs, analgesics, analeptics, cardiovascular drugs, diuretics, anticoagulants, adrenergic drugs, parasympathetic agents, antispasmodics, antihistaminics, diagnostic agents, thyroxin and antithyroid agents, vitamins.
621. **Chemistry of Synthetic Drugs (5).** Pr., PY 620.  
A continuation of PY 620; hormones, essential amino and fatty acids, chemotherapy, theories of metabolite antagonism, dyestuffs in chemotherapy, sulfanamides, antimalarials, chemotherapy of acid-fast infections, metal-free drugs used in tropical diseases, antibiotics, antifungal agents, anthelmintics, organo-metallic chemotherapeutic compounds, antiseptics.
622. **Synthesis of Drugs (5).** Lec. 2, Lab. 9. Coreq., PY 620.  
Laboratory procedures in the synthesis of intermediates and representative compounds studied in PY 620-621.
623. **Synthesis of Drugs (5).** Lec. 2, Lab. 9. Pr., PY 622.  
A continuation of PY 622.
- 624-25. **Analytical and Control Methods (5).** Lec. 3, Lab. 6. Pr., PY 305 or consent of instructor.  
An extensive study of the principles and techniques of analysis as applied to the various therapeutic classes.
626. **Alkaloid Chemistry (5).** Pr., PY 620 or consent of instructor.  
Structure determination, chemistry and synthesis of alkaloids with emphasis on the alkaloids of pharmacological and pharmaceutical importance.
628. **Steroid Chemistry (5).** Pr., PY 620 or consent of instructor.  
Structure determination, chemistry, synthesis and structure relationships of steroids of pharmacological and pharmaceutical importance.

## Pharmacology

Professor Coker

Associate Professor Williams

300. **Public Health (5).** Pr., VM 200, VM 204.  
Common communicable diseases including the course and symptoms of the disease, the causative agents, mode of transmission, and control measures including hygienic and sanitation measures as well as immunization procedures. A survey of Federal and State Health agency activities is included.
309. **Pharmacology I (5).** Lec. 4, Lab. 3. Pr., ZY 101-102, CH 301.  
The essentials of anatomy and physiology including a brief consideration of elements of histology and embryology with an introduction to pharmacodynamics as related to these sciences.

**310. Public Health (3). General elective. Pr., junior standing.**

A non-technical survey of the common communicable diseases including the causative agents modes of transmission and symptoms. Hygienic, sanitation and immunization control measures are discussed along with the roles of Federal and State Health agencies. (Not open to pharmacy majors.)

**405. Pharmacology II (5). Lec. 4, Lab. 3. Pr., PY 309.**

A pharmacological study of the official and more important non-official drugs. Absorption and fate, mechanism of action, pharmacochemical relationships and toxicology, together with a brief coverage of pathological conditions indicating specific uses in therapy are main considerations.

**406. Pharmacology III (5). Lec. 4, Lab. 3. Pr., PY 405.**

A continuation of PY 405. Topics for consideration are the vitamins, hormones, biologicals and antibiotics with major emphasis on endocrine products and deficiency states as related to specific therapy.

**407. Chemotherapeutic Drugs (3). Pr., PY 406.**

Structure, action relationship of drugs and their use in inhibiting or destroying microorganisms.

**430. Pharmacological Techniques (5). Lec. 4, Lab. 3. Pr., PY 309 and junior standing.**

Principles and techniques of surgical procedures used in drug testing with animals, including preparation of the animal, asepsis, and care of surgical instruments.

**431. Pharmacology IV (5). Lec. 4, Lab. 3. Pr., PY 405 and junior standing.**

This course provides a foundation for further advanced studies in pharmacology. It consists in the main of macroscopic and microscopic study of animal tissues and the effect thereon of drugs in therapeutic and toxic quantities.

**432. Fundamentals of Bionucleonics (3). Lec. 2, Lab. 3. Pr., PS 206, PY 309 or equivalent and junior standing.**

Theoretical and practical application of radioactivity to Pharmacy and the medical sciences.

**COURSES FOR GRADUATE STUDENTS****631. Advanced Pharmacology (5). Pr., PY 430 and PY 431.**

An advanced study of drug actions with emphasis on mechanism of action at cellular level, and relation between chemical structure and pharmacological response.

**633. Bioassay (5). Lec. 3, Lab. 6. Pr., PY 430 and suitable course in statistics.**

Principles and techniques of bioassay with primary attention to official bioassay methods.

**637. Pharmacology Seminar (3). Pr., PY 430.****Pharmacognosy***Professor Hocking***306. Elementary Pharmacognosy (5). Lec. 4, Lab. 3. Pr., HY 205, CH 301.**

An introduction to pharmacognosy, the science of crude drugs and their components with drugs arranged according to a modern biochemical scheme. Naturally occurring medicinally valuable substances are considered as products of biological origin and as chemical materials.

**307. Pharmacognosy (5). Lec. 4, Lab. 3. Pr., PY 306.**

A continuation of PY 306 including testing and assaying of natural products.

**440. Histology of Natural Products (3). Lec. 2, Lab. 3. Pr., PY 309 and fourth year standing.**

Micro-chemical, micro-analytical, and micro-sectioning techniques, including methods of fixation, dehydration, embedding, and staining tissues in the preparation of permanent mounts on microslides, with use of microtome and micro-dissection techniques.

**441. Commercial Pharmacognosy (3). Pr., consent of instructor.**

Commercial aspects of crude drugs, both wild and cultivated, foreign and domestic; composition and usage of pesticides.

**COURSES FOR GRADUATE STUDENTS****640. Advanced Pharmacognosy (5). Lec. 3, Lab. 6. Pr., PY 307 or equivalent.**

Comprehensive study of both official and unofficial crude drugs conducted macroscopically and microscopically; techniques of use of camera lucida, microtome, and microphotographic equipment; pharmacology of previously undescribed drugs.

**641. Advanced Microanalysis (5). Lec. 2, Lab. 9. Pr., permission of instructor.**

Techniques of microchemistry and microanalysis of crude plant and animal drugs.

642. **Histology of Medicinal Plants (5).** Lec. 3, Lab. 6. Pr., PY 440.  
Microscopic structure of medicinal plants in fresh or preserved state as related to the origin of plant principles.
699. **Research and Thesis (5).**

### Pharmacy Administration

204. **Drug Marketing (3).** Pr., EC 200.  
Basic principles of marketing drug products from the manufacturer to the consumer.
408. **Pharmaceutical Economics (5).** Pr., EC 200, EC 211.  
The elements of drug store management; drug store layout, buying, sales production, salesmanship, merchandising, and other affiliated considerations in the successful operation of a retail drug store.
415. **Pharmaceutical Jurisprudence (2).** Pr., fourth year standing.  
Covers legal aspects of pharmaceutical practice, giving primary consideration to State and Federal regulations bearing thereon; including Alabama State Practice Act, Harrison Anti-Narcotic Act, and Food and Drug Regulations of the Federal Government.

### Philosophy (PA)

*Professor John Henry Melzer*

*Assistant Professors Dalrymple and Owsley*

These courses introduce the student to the fundamental ideas upon which our civilization is based and encourage him to investigate the meaning of these ideas for individual and group living. They may be elected by juniors and seniors, and by sophomores at the discretion of the instructor, but are not open to freshmen. A student who wishes to minor in Philosophy must elect two historical philosophy courses and one other five hour course.

301. **Introduction to Philosophy (3).** General elective.  
An introductory survey of the great philosophical systems which underlie and support western civilization. (Credit for this course excludes credit for PA 304.)
302. **Introduction in Ethics (3).** General elective.  
An introduction to the general principal of morality as applied to human conduct. (Credit for this course excludes credit for PA 305.)
307. **Scientific Reasoning (5).**  
A general course in the principles of logical reasoning as employed by scientists. (Not open to students with credit in PA 308.)
308. **Introduction in Logic (3).** General elective.  
Designed to acquaint the student with the principles of logical thinking with emphasis upon contemporary scientific procedures. (Not open to students with credit in PA 307.)
320. **Formal Logic (5).**  
An extended treatment of symbolic logic. (PA 308 is desirable but not necessary for this course.)
325. **Aesthetics (5).**  
Inquiry into the history of aesthetic theory made with a view of determining foundations of critical reflection on the arts of literature, drama, painting, sculpture, architecture, and music.
330. **Philosophy of Religion (5).**  
A philosophical examination of religious ideas including such topics as the origin of religion; the nature of religion; the various concepts of God, the soul, immortality; and internal and external criticisms of religion.
350. **Philosophy of Science (5).** Pr., junior standing.  
An analysis of the characteristics and assumptions of scientific method. Attention will be given to the application of this analysis to the various sciences.
410. **Ancient and Medieval Philosophy (5).** Pr., junior standing.  
Philosophical thought of ancient Greece and Rome, and of medieval Christendom.
420. **Modern Philosophy (5).** Pr., junior standing.  
Philosophical thought from Descartes through Kant.
430. **Contemporary Philosophy (5).** Pr., junior standing.  
Philosophical thought from James through the present time.
440. **American Philosophy (5).** Pr., junior standing.  
American philosophical thought from colonial times to William James.

## \*Physical Education and Athletics, Men (PE)

Director Jeff Beard

Professors Hutsell, Jordan, and Umbach (Head Professor)

Associate Professor Young

Assistant Professors Dragoin, Martincic, and Rosen

Instructors, Atkins, Belcher, Bradberry, Connally, Daoley, Eaves, Herring,

Howard, Lorendo, Lynn, Russell, Senn, Taube, Tomlin,

Waldrop, Washington

1. Physical Education is required for six consecutive quarters. Only one credit per quarter is permitted or transferable to meet the six-quarter requirement.

2. Unless otherwise approved by the student's Dean, each student who lacks physical education credits must register for physical education in the first and succeeding quarters of residence until all physical education requirements are met.

3. All undergraduates under 26 years of age must take physical education until requirements are met.

4. One quarter hour credit is earned for each quarter (maximum of 6 quarter hours in activity courses allowed on degree). No duplication of course is permitted except in varsity sports.

5. Students transferring from an institution not requiring physical education will have his physical education requirements reduced by the number of full time quarters in residence at the former institution. A student who transfers from an institution requiring physical education will have his physical education requirements reduced by the number of quarters at the former institution. If a student has not fulfilled the requirement in physical education at the previous institution, he will be required to do so at Auburn University before graduation.

6. Students who have had active military service may receive credit in physical education as follows: for less than 6 months, no credit; for 6 months to one year, 1 quarter hour in Basic Physical Education, PE 120; for more than one year, 6 quarter hours.

7. A medical examination is required of all students before being admitted into activity classes. A card stating the physical condition of each student must be filed in the Infirmary and Physical Education Department before assignment of activities can be approved.

Students are classified in regular, adapted, restricted and permanent excuse classes, according to results of the medical examination and recommendation of examining physician.

A. "Regular"—This classification permits the student to engage in any activity offered by the department.

B. "Adapted"—This classification is for those students with slightly defective conditions (conditions not serious enough to necessitate excuse from Basic Military courses, but serious enough to suggest special attention).

C. "Restricted"—This classification is for students with marked physical handicaps (conditions so serious that they necessitate excuse from Basic Military courses and the regular physical education courses).

D. "Permanent Excuse"—This classification is for those students who for medical reasons are unable to participate in the physical education program whatsoever. An exemption card must be filled out by the family physician and the student assigned to this classification by the college physician.

8. Students registered in restrictive classes are required to have additional medical examinations for reclassification into regular classes, or from regular to restricted classes. These classes will be assigned whenever, in the opinion of the college physician, the assignment is necessary.

9. Those students entering college as first quarter freshmen with the regular health classification shall take Basic Physical Education.

10. Students who are placed in the adapted program may be required to take Basic Physical Education, depending on their physical disability.

11. In order to receive a well-rounded program of activities, students are required to pass one course in each of the following areas: Basic Physical Education, Team Sports or Rhythms, Individual Sports, Gymnastic Sports, Aquatic Sports, and Combative Sports. They are permitted a choice of one sport in each of these areas.

\* Effective July 1, 1961 courses in Physical Education and Athletics, Men (PE) and Physical Education for Women (PW) will be offered through the Department of Physical Education, Health, and Recreation in the School of Education.



## Activities (PE)

Course  
No.Course  
No.

One Quarter Basic Physical Education	
(a) Basic Physical Education	120
One Quarter Team Sports or Rhythms	
Team Sports:	
(a) Basketball	131
(b) Soccer	126
(c) Softball	129
(d) Touch Football	127
(e) Volleyball	128
(f) Speedball	138
Rhythms:	
(a) Folk Dance	143
(b) Modern Dance	145
(c) Tap Dance	146
(d) Social Dance	147
One Quarter Combative Sports	
(a) Boxing	135
(b) Fencing	136
(c) Wrestling	125
One Quarter Aquatic Sports	
(a) Basic Survival Swimming	119
(b) Advanced Survival Swimming	122
(c) Swimming (Advanced)	222
(d) Life Saving	237

One Quarter Gymnastic Sports	
(a) Apparatus (Elementary)	121
(b) Tumbling (Elementary)	123
(c) Trampoline	223
One Quarter Individual Sports	
(a) Archery	130
(b) Badminton	133
(c) Golf	134
(d) Tennis	132
(e) Track	124
(f) Weight Training	137
(g) Angling	139
(h) Rifle Marksmanship	141
Varsity Sports	
(a) Baseball	338
(b) Basketball	331
(c) Cross Country	339
(d) Football	327
(e) Golf	334
(f) Swimming	322
(g) Tennis	332
(h) Track	324
(i) Wrestling	325
* Open to students in Air, Army and Navy ROTC.	

## \*Physical Education for Women (PW)

Professor Land (Head of Department)

Associate Professor Donahoo

Assistant Professors Lawler, Turner, and Walton

Instructors Moore, Jackson, Kazmierczak, and Rawls

## Requirements and Standards

1. Physical Education is required for six consecutive quarters. Only one credit per quarter in activity courses is permitted or transferable to meet the six-quarter requirement.

2. Unless otherwise approved by the student's Dean, each student who lacks physical education credits must register for physical education in her first and succeeding quarters of residence until all physical education requirements have been met.

3. All undergraduates under 26 years of age take physical education until requirements are met.

4. One quarter hour credit is earned for each quarter with a maximum of six quarter hours credit allowed on the degree.

5. Students transferring from an institution not requiring physical education will have the physical education requirement reduced by the number of fulltime quarters completed in residence at the former institution. A student who transfers from an institution requiring physical education will have her physical education requirement reduced by the number of quarters completed at the former institution. If a student has not fulfilled the requirement in physical education at the previous institution, she will be required to do so at Auburn University before graduation.

6. A medical examination is required of all students before being admitted into activity classes. A card stating the physical condition of each student must be filed in the Infirmary and Physical Education Department before assignment of activities can be approved.

Students are classified in regular, restrictive, rest, and functional classes, according to results of medical examination and recommendation of examining physician.

A. "Regular"—for students having no physical defects—involves participation in vigorous activities such as: team sports, dual and individual sports, and dance.

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B. "Restrictive"—for students having temporary and permanent physical defects—involves participation in activities of a limited nature such as: table tennis, shuffleboard, dart games, archery, bowling and rhythmical work.

C. "Rest"—for students having recent illness, operations or any condition for which rest instead of activity is advised.

D. "Functional"—designed for the individual student on the basis of physical needs.

E. Students registered in restrictive classes are required to have additional medical examinations for reclassification into regular classes; or from regular to restrictive or rest classes. These classes will be assigned whenever, in the opinion of the college physician, the assignment is necessary.

#### 7. Intramural program:

A. Students in restrictive physical education cannot participate in the Intramural sports program.

B. All participants in scheduled Intramural Sports must be checked by the University Medical Staff before being allowed to enter scheduled tournaments. The results of this check must be on file in the office, Department of Physical Education for Women, Alumni Gymnasium, before participation is allowed.

8. Students are classified in regular and restrictive classes according to skill and ability into elementary, intermediate, and advanced classes.

9. Each student is required to dress in department regulation gymnasium costume in order to participate in class work. Two regulation gymnasium costumes are required. Tennis shoes or gymnasium shoes are required.

10. To receive a survey of all types of activities, the following are suggested in preparing student schedules. Swimming is the only required activity.

### Suggested Activities

#### Dance

- a. Modern
- b. Tap
- c. Folk
- d. Social

#### Team Sports

- a. Basketball
- b. Soccer
- c. Softball
- d. Volleyball

#### Individual Activities

- a. Golf
- b. Tennis
- c. Badminton
- d. Archery
- e. Bowling
- f. Functional

One quarter Swimming or additional quarters if needed to pass beginners swimming test.

### Activities Offered

- |              |                        |
|--------------|------------------------|
| 100.         | Functional.            |
| 121-221-321. | Archery.               |
| 122-222-322. | Badminton.             |
| 123-223-323. | Basketball.            |
| 124-224-324. | Bowling.               |
| 125-225-325. | Fundamentals (Golf).   |
| 126-226-326. | Recreational Sports.   |
| 127-227-327. | Soccer.                |
| 128-228-328. | Softball.              |
| 129-229-329. | Stunts and Tumbling.   |
| 130-230-330. | Tennis.                |
| 131-231-331. | Swimming.              |
| 132-232-332. | Volleyball.            |
| 133-233-333. | Folk Dance.            |
| 134-234-334. | Mass Games and Relays. |
| 135-235-335. | Modern Dance.          |
| 136-236-336. | Tap Dance.             |
| 137-237-337. | Social Dance.          |

- |                               |
|-------------------------------|
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Winter, Fall.                 |
| Spring, Summer, Fall, Winter. |
| Fall, Winter, Spring, Summer. |
| Spring, Summer, Fall, Winter. |
| Fall.                         |
| Spring.                       |
| Fall, Winter, Spring.         |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |
| Spring, Summer, Fall, Winter. |

#### 110. Hygiene (3). Summer, Fall, Winter.

Hygiene; deals with problems in personal, mental and environmental hygiene.

Staff

#### 111-112-113. Hygiene (1-1-1). Spring, Summer, Fall, Winter.

Required of all freshmen women for three quarters. PW 111 deals with problems in personal hygiene; PW 112, mental hygiene suggesting certain principles for working out individual difficulties; and PW 113, environmental hygiene; a consideration of the sociological environment and public health education.

Staff

### Professional Courses for Undergraduates Majoring and Minorng in Physical Education

- PW 138. Volleyball and Tumbling (Women) (1). Fall.** Staff  
Basic skills in volleyball and tumbling. (Pr., to PE 212 and PW 312.)
- PW 139. Basketball and Recreation Sports (Women) (1). Winter.** Staff  
Basic skills in basketball and recreation sports. (Pr. to PW 313.)
- PW 140. Softball and Tennis (Women) (1). Spring.** Staff  
Basic skills of softball and tennis. (Pr. to PW 314.)
- PE 151. Survey of Activities (Men) (1). (Required of majors and minors.)** Staff  
Leadership course in teaching calisthenics, grass drills, guerillas, and the organization of class activity.
- PE 152. Survey of Activities (Men) (1).** Staff  
The fundamental skills and techniques of elementary combatives, boxing and fencing.
- PE 153. Survey of Activities (Men) (1).** Staff  
The fundamental skills and techniques of badminton, paddle tennis, and tennis.
- PE 201. Introduction to Physical Education (5). Lec. 5. Fall, Spring. Pr., sopho-**  
more standing. Donahoo  
An introduction to the field of physical education from the earliest periods to the present. Emphasis is placed on the physical, biological and psychological principles of physical education.
- PE 202. Basketball (Men) (5). Lec. 3, Lab. 4. Fall.** Eaves  
The fundamental skill techniques of basketball, the different offense, defense and strategy.
- PE 203. Anatomy (Men) (5). Lec. 5. Fall.** Hutsell  
The study of structure and functions of the human body, including digestive, circulatory, respiratory, reproductive, nervous, excretory, and endocrine systems.
- PE 206. Football (Men) (5). Winter.** Jordan  
The fundamentals of football and the different types of offense, defense, team strategy and generalship.
- PE 212. Elementary Physical Education (5). Lec. 5. Fall, Winter, Summer. Pr.,**  
PW 138, 238 (Women). PE 252 (Men). (Majors.) Land  
A study of games of low organization and play activities suitable to each grade of elementary level. The presentation of skills and devices necessary for competent instruction for the elementary grades.
- PE 214. Physiology of Exercise (Women and Men) (5). Lec. 5. Spring. Pr., CH 103,**  
VM 220, 221. (Women) PE 203, VM 210. (Men). Staff
- VM 220-221. Human Anatomy and Physiology (Women) (5-5). Lec. 3, Lab. 4.**  
Winter, Spring. Pr., ZY 102. Staff  
(See Veterinary Medicine, page 315, for description.)
- PW 238. Folk and Square Dance (Women) (1).** Staff  
Basic skills of folk and square dance. Pr. to PE 212, 301, PW 311.
- PW 239. Soccer and Calisthenics (Women) (1).** Staff  
Basic skills of soccer and calisthenics.
- PW 240. Social and Tap Dance (Women) (1).** Staff  
Basic skills of social and tap dance. Pr. to PE 301, PW 311.
- PE 251. Survey of Activities (Men) (1).** Staff  
The teaching of the fundamental skills and techniques of archery, golf, and weight training.
- PE 252. Survey of Activities (Men) (1). Pr. to PE 301.** Staff  
Techniques and fundamental skills of folk and square dance.
- PE 253. Survey of Activities (Men) (1).** Staff  
Fundamental skills and techniques of tumbling, trampoline, and pyramids.
- PE 301. Recreation Leadership (5). Lec. 5. Winter, Summer. Pr., PW 238, 240**  
(Women). PE 252, 351 (Men). PE 212 (Women and Men). (Majors.) Donahoo
- PE 303. Baseball (Men) (2). Lec. 1, Lab. 2.** Staff  
The study of offensive and defensive strategy; pitching, catching, infielding, outfielding, batting, and baserunning.
- PE 304. Track and Field (Men) (3). Lec. 2, Lab. 2.** Hutsell  
Fundamental skills and techniques of track and field athletics. The organizing and conducting of track meets.
- PW 311. Conduct of Rhythmical Activities (Women) (5). Lab. 10. Spring. Pr.,**  
PW 238, PW 240, PW 340. Donahoo  
Discussions, practices, and leadership experiences in folk, square, tap, social, and modern dance.

- PW 312. Theory and Conduct of Sports (Women) (5).** Lab. 10. Fall. Pr., PW 128. Donahoo  
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of the skills and principles of volleyball and tumbling.
- PW 313. Theory and Conduct of Sports (Women) (5).** Lab. 10. Winter. Pr., PW 139, 338, 339. Staff  
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of these skills and principles of basketball and recreation sports.
- PW 314. Theory and Conduct of Sports (Women) (5).** Lab. 10. Spring. Pr., PW 140. Staff  
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of these skills and principles of softball and tennis.
- PW 338. Badminton and Bowling (Women) (1).** Staff  
Skills and techniques of badminton and bowling. Pr. to PW 313.
- PW 339. Golf and Archery (Women) (1).** Staff  
Skills and techniques of golf and archery. Pr., to PW 313.
- PW 340. Modern Dance (Women) (1).** Staff  
Skills and techniques of modern dance. Pr., to PW 311.
- PE 351. Survey of Activities (Men) (1).** Lab. 6. Staff  
The fundamental skills and techniques of square, social, and folk dance. Pr., to PE 301.
- PE 352. Survey of Activities (Men) (1).** Lab. 6. Fall. Staff  
The fundamental skills and techniques of apparatus.
- PE 353. Survey of Activities (Men) (1).** Lab. 6. Staff  
The teaching of fundamental skills and techniques of team games, such as volleyball, soccer, and speedball.
- PE 401. Organization and Administration (5).** Lec. 5. Fall and Spring. Pr., senior standing. Land, Umbach  
Administration of intramural and physical education activities; also the construction and care of the physical education plant and departmental organization.
- PE 404. Athletic Injuries and First Aid (Men) (5).** Lec. 4, Lab. 2. Howard  
A study of athletic injuries as to their care, prevention, and correction. Developing the knowledge, skills, and techniques of first aid leading to an Instructor's in First Aid.
- PE 416. Adaptive Physical Education (5).** Lec. 5. Spring. Pr., PE 214, VM 220 and 221. (Women). PE 214, 203, 404. (Men). Martincic  
A review of anatomy, physiology and psychology as pertains to special programs of physical education for the temporarily and permanently handicapped, with laboratory practice in posture training and remedial gymnastics.
- PW 438. Swimming (Women) (1).** Staff  
Skills and techniques of swimming and water safety. Pr. to PW 439.
- PW 439. Advanced Swimming (Women) (1).** Staff  
Life saving techniques leading to senior or instructor's certificate. Water safety, officiating and administration of water demonstrations and programs.
- PE 451. Survey of Activities (Men) (1).** Staff  
Fundamental skills and techniques of wrestling.
- PE 452. Survey of Activities (Men) (1).** Staff  
Fundamental skills of life saving and the instructor's in swimming.

## Physics (PS)

*Head Professor Carr*

*Professor Hughes*

*Associate Research Professor Louck*

*Associate Professors Shewell and Sparks*

*Assistant Research Professor Budenstein*

*Assistant Professors Askew, Crafts, French, and Harlan*

*Instructors Kilbourn, Scarborough, Steele, and Wood*

*Graduate Assistants Groves, Jaen, Johnson, Phillips, Shih, and Weaver*

The significant contributions of physics to the advancement of modern industry and technology are reflected in a marked demand for well-trained scientists in this field. Opportunities for a career in this science are to be found in the increasingly active industrial and governmental laboratories as well as on the teaching and research staffs of the colleges and universities. The Curriculum in Physics (see page 187) is recommended to those who contemplate a career in teaching and research, while the

Curriculum in Engineering Physics, (see page 160) should appeal to those whose interests lie primarily in the applied aspects of the subject. The course offerings also provide foundational training for students in chemistry and engineering. In addition, service courses are offered to meet the needs of students enrolled in agriculture, architecture and building construction, education, forestry, home economics, industrial management, pharmacy, pre-dentistry, pre-medicine, pre-veterinary medicine, and arts and sciences.

Good laboratory and library facilities are available for advanced studies and research in several fields of modern and classical physics. Current research activities include experimental studies of photonuclear interactions, Beta- and gamma-ray scintillation spectrometry, cosmic radiation, radiation damage, crystal imperfections, quadrupole focussing of positive and negative ions, and magneto-optics. In addition theoretical investigations are presently being conducted in molecular physics, operational methods in quantum mechanics, classical mechanics, classical and quantum mechanical statistics, and crystal imperfections.

201. General Physics—Mechanics (5). Lec. 4, Lab. 3. Pr., MH 201 or 262 (or concurrently).

The first of three quarters in a basic physics course comprising PS 201-202-203. The concepts of classical physics are developed and emphasis is placed upon the solution of problems. A series of selected quantitative experiments is performed in the three-hour weekly laboratory periods. For students in chemistry, engineering, physics and engineering physics.

202. General Physics—Heat, Sound, and Light (5). Lec. 4, Lab. 3. Pr., PS 201; MH 202 or 263 (or concurrently).

203. General Physics—Electricity and Magnetism (5). Lec. 4, Lab. 3. Pr., PS 201; MH 202 or 263 (or concurrently).

204. Survey Course in Physics (5). Pr., PS 201 or 205 excludes credit for this course. The instruction will be conducted around discussions of problems in the effort to develop an intelligent view of the general field of physics within the limits of a one-quarter course. For students in aeronautical administration; agriculture; agricultural and industrial arts education and industrial management.

205. Introductory Physics—Mechanics and Heat (5). Lec. 4, Lab. 3. Pr., MH 112 or 160 (or concurrently).

The first half of a two-quarter course in the fundamentals of physics. The quantitative as well as the qualitative aspects of the subject are stressed. For students in architecture, forestry, laboratory technology, pharmacy, pre-dentistry, pre-medicine, pre-veterinary, medicine, industrial management, and science and literature. The weekly three-hour laboratory periods are devoted to the performance of appropriate experiments.

206. Introductory Physics—Electricity, Sound and Light (5). Lec. 4, Lab. 3. Pr., PS 205.

Continuation of PS 205.

207. Physics for Home Economics Students (5).

The course is designed primarily to give the student an understanding of the physical principles involved in the appliances used in the home.

210. Pre-Medical Physics (5). Lec. 4, Lab. 3. Pr., PS 206.

A survey of the developments in Modern Physics of particular interest to the medical student. Laboratory experiments appropriate to the subject matter will be conducted.

217. Astronomy (3). General elective.

A brief course in descriptive astronomy, accompanied by occasional observations of the heavenly bodies with a three-inch refracting telescope.

301. Intermediate Electricity and Magnetism (5). Lec. 4, Lab. 3. Pr., PS 203, MH 202 or 264.

A study of the fundamental phenomena and relationships of electrical science, primarily from the classical viewpoint and by the methods of calculus. Selected laboratory experiments constitute a part of the course.

302. Electronics (5). Lec. 4, Lab. 3. Pr., PS 301.

Simple alternating current theory. Theory of vacuum and gas-discharge tubes and their circuits. Thermionic emissions, space-charge phenomena, and electron ballistics. Grid-controlled tubes and circuit analysis. Voltage and current amplifiers; feedback theory. Simple computing circuits. Appropriate laboratory exercises form a part of the course.

303. Optics (5). Lec. 4, Lab. 3. Pr., PS 202, MH 202 or 264.

An intermediate course in physical optics comprising wave motion, reflection, refraction, dispersion, origin of spectra, interference, diffraction, and polarization, with appropriate laboratory experiments.

304. **Applied Spectroscopy (5).** Lec 4, Lab. 3. Pr., PS 202, MH 202 or 263.  
A survey of the more important concepts of the origin of spectra; a study of instruments and techniques of practical spectroscopy. Laboratory experiments designed to give students in both Chemistry and Physics a working knowledge of spectroscopy as a tool.
305. **Introduction to Modern Physics (5).** Lec. 4, Lab. 3. Pr., PS 202-203, MH 202 or 264.  
A survey of the more significant discoveries and developments which have marked the advances in physics over the past half-century, including an introduction to the structure of electricity and light, atomic and molecular spectra, X-rays, natural and artificial radioactivity, isotope analysis, nuclear fission, cosmic rays. Pertinent experiments constitute the laboratory work.
401. **Theoretical Physics I—Mechanics (5).** Pr., junior standing, PS 203, MH 361 (or concurrently).  
Free, damped and forced vibrations; central force field; work and energy; systems of particles. Introduction to vector analysis.
402. **Theoretical Physics II—Mechanics Continued (5).** Pr., junior standing, PS 401.  
Kinematics and dynamics of rigid body motion; introduction to matrices; Lagrange's equations; and small oscillations.
404. **Thermodynamics (5).** Pr., junior standing, PS 202-203, MH 264 or 301.  
Equations of state. First and second laws of thermodynamics. The absolute temperature scale; the entropy, free energy, and Gibbs potential; general conditions of equilibrium. Application to reactions in gases and dilute solutions. Nernst's postulate.
405. **Nuclear Physics (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 305, MH 264 or 301.  
Nuclear radiations; transmutations; natural and artificial radioactivity; binding energy; nuclear forces; structure of the nucleus; nuclear fission and its applications. Appropriate laboratory experiments form a part of the course.
409. **Introduction to Reactor Physics I (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 305, MH 402, or permission of instructor.  
A brief account of nuclear physics; basic instrumentation; interaction of neutrons with matter; chain reactions; neutron diffusion; the bare homogeneous thermal reactor; lattice constants; reactor kinetics.
410. **Introduction to Reactor Physics II (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 409.  
Homogeneous reactor with reflector; reactor control; power reactors; thermal aspects of reactor systems; design variables; radiation detection and measurement; shielding; radiation hazards.
413. **Introduction to X-ray Crystallography (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 305, or permission of instructor.  
Principles of crystallography, properties of x-rays, Laue and powder techniques, applications to crystal structure and grain size.
414. **Electron Optics and Microscopy (5).** Lec. 3, Lab. 6. Pr., junior standing and PS 203 and MH 264.  
Electron optics; theory and operation of the electron microscope; techniques of mounting, replication and shadowing of specimen; electron diffraction, theory and interpretation of patterns.
421. **Advanced Electronic Circuits (5).** Pr., junior standing, PS 302.  
Advanced network and feedback theory; voltage regulators, oscillators; pulse and sweep generators; electronic instruments.
430. **Physics for High School Teachers I (4).** Lec. 3, Lab. 3. Pr., PS 204 or equivalent, junior standing.  
A study of the fundamental laws in mechanics, heat, and sound with particular emphasis upon such broad principles as Newton's laws of motion, the conservation of energy and momentum, and the transfer of energy.
431. **Physics for High School Teachers II (4).** Lec. 3, Lab. 3. Pr., PS 430, junior standing.  
A study of the fundamental laws in light, electricity, magnetism, and an introduction to some basic phenomena in atomic, molecular, and nuclear physics.
470. **Health Physics (5).** Lec. 4, Lab. 3. Pr., permission of the instructor, junior standing.  
Fundamental principals of radioactivity; instrumentation for detecting and monitoring radioactive nuclides; radiation effects on man; permissible radiation dosages; safe handling of radioactive substances; and shielding from various radiations.



## GRADUATE COURSES

601. **Advanced Dynamics I (3).** Pr., PS 402.  
D'Alembert's principle; introduction to the calculus of variation; Hamilton's principle and Hamilton's equations; principle of least action.
602. **Advanced Dynamics II (3).** Pr., PS 601.  
Canonical variables and contact transformations; the Hamilton-Jacobi equation; action; angle variables; Poisson brackets; continuous systems.
603. **Theory of Electricity and Magnetism I (3).** Pr., PS 301; MH 402.  
Electrostatics—Laplace's equation and Poisson's equation; Green's identities; the stress tensor; steady electric currents; magnetostatics; Faraday's law of induction.
604. **Theory of Electricity and Magnetism II (3).** Pr., PS 603.  
Maxwell's equations; the vector potential; field of radiating dipole; Kirchhoff-Huygens theory. The relativistic formulation of Maxwell's equations.
617. **Modern Physics I (3).** Pr., PS 305, MH 404, or permission of instructor.  
Special theory of relativity; quantum mechanics with applications.
618. **Modern Physics II (3).** Pr., PS 617 or PS 641, or permission of instructor.  
Atomic and molecular spectra, quantum statistics; band theory of solids; x-rays.
619. **Modern Physics III (3).** Pr., PS 617 or PS 641, or permission of instructor.  
Nuclear physics, particles.
629. **Statistical Mechanics (3).** Pr., PS 404, 601.  
Statistical ensembles in classical mechanics, the Maxwell-Boltzmann distribution law. Boltzmann's H theorem, and an introduction to quantum statistical mechanics.
630. **Modern Physics for High School Teachers (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 431 or equivalent, MH 487 or equivalent.  
A survey of developments in physics since 1890 including: structure of matter; atomic and molecular spectra; x-rays, natural and induced radioactivity; nuclear fission and fusion; and cosmic rays.
635. **Introduction to Solid State Physics (3).** Pr., PS 619.  
Classification of crystal structures; lattice vibrations; thermal properties of solids; dielectric properties; ferroelectricity; diamagnetism; paramagnetism; ferromagnetism; free electron theory of metals; band theory of metals; and semiconductors.
639. **Seminar in Theoretical Physics (2).** Pr., permission of instructor.
641. **Quantum Mechanics I (3).** Pr., PS 402.  
Uncertainty principle; Schrodinger's equation; one-dimensional problems; operator formalism; angular momentum.
642. **Quantum Mechanics II (3).** Pr., PS 641.  
Central forces; matrix representations; approximate methods; particle in electromagnetic field.
643. **Quantum Mechanics III (3).** Pr., PS 642.  
Spin; identical particles; Pauli principle; applications.
653. **Seminar in Modern Physics (2).** Pr., permission of instructor.
661. **Nuclear Structure (3).** Pr., PS 405.  
Selected topics on properties of nuclei.
699. **Research and Thesis.** Credit to be arranged.

## Poultry Science (PH)

*Professors Moore, Cottier, and Edgar*  
*Associate Professor Goodman*  
*Assistant Professor Howes*

The work in this department is designed to provide practical instruction in various phases of poultry raising. The courses cover the fields of feeding, breeding, marketing, incubation, brooding, diseases, parasites, and management. The undergraduate work is especially planned to meet the needs of students who expect to become poultry farmers, poultry specialists, county agents, and Smith-Hughes teachers. The graduate work allows students to equip themselves for extension specialists, college teachers, and research workers.

202. **Veterinary Poultry (5).** Lec. 4, Lab. 2. Winter, Spring. Cottier  
 A study of the principles of poultry production and their application to students in Veterinary Medicine.

301. General Poultry Husbandry (5). Lec. 4, Lab. 2. Fall, Winter, Spring, Summer. Goodman  
Principles of poultry production and their application to general farm conditions, including breeding, feeding, housing, diseases, and culling.
302. Poultry Meat Production (3). Lec. 2, Lab. 2. Spring. Pr., PH 301. Goodman  
The practical problems involved in raising broilers, capons, and turkeys for meat production.
404. Poultry Management (5). Lec. 4, Lab. 2. Winter. Pr., PH 301 and junior standing. Cottier  
Poultry problems and management of commercial flocks.
405. Poultry Feeding (3). Fall. Pr., PH 301 and junior standing. Cottier  
The composition and use of poultry feeds in connection with the demands for growth, body maintenance, and egg production.
406. Incubation and Brooding (3). Lec. 2, Lab. 2. Winter. Pr., PH 301 and junior standing. Goodman  
Embryology of the chick, theory and practice of incubation and brooding.
- 407-09. Poultry Problems (3-3). Lec. 1, Lab. 4. Pr., 12 hours PH courses and junior standing. All quarters. Staff  
Investigation on some phase of poultry work.
408. Poultry Diseases and Parasites (5). Lec. 4, Lab. 2. Winter. Pr., PH 301 and junior standing. Cottier  
The prevention, diagnosis, control, and treatment of the common diseases and parasites of poultry, designed especially for Agriculture students.
410. Poultry Breeding (3). Lec. 3. Fall. Pr., PH 301, ZY 400, and junior standing. Moore  
The physiology of reproduction and inheritance of various poultry characters responsible for efficient egg and meat production and low mortality.
411. Poultry Marketing (3). Lec. 2, Lab. 2. Spring. Pr., PH 301 and junior standing. Goodman  
Grading eggs and poultry and study of problems of poultry marketing.
412. Commercial Poultry Management (3). Lec. 4. Pr., graduate standing. Staff  
A study of the management practices and principles used in the business of producing market eggs, hatching eggs, broilers, and turkeys. (Credit for both PH 404 and PH 412 may not be used in meeting requirements for the Master's degree.)
413. Poultry Sanitation and Diseases (3). Lec. 4. Pr., graduate standing. Staff  
A study of recommended sanitation practices and the prevention and control of common diseases and parasites of poultry. (Credit for both PH 408 and PH 413 may not be used in meeting requirements for the Master's degree.)
422. Avian Diseases (5). Lec. 4, Lab. 2. Fall. Cottier  
This course deals with the diagnosis, treatment, and prevention of infectious and parasitic diseases. Clinical and autopsy demonstrations are performed during laboratory periods. (For Veterinary students only.)

## GRADUATE COURSES

604. Advanced Poultry Production (5). Lec. 5. Spring. Cottier  
Advanced studies on various phases of poultry production.
606. Advanced Poultry Breeding (5). Lec. 4, Lab. 2. Spring. Moore  
Advanced studies of the principles of heredity as applied to poultry breeding.
607. Advanced Poultry Problems (5). All quarters. Staff  
Study of assigned problems.
608. Seminar. Credit to be arranged. Fall, Spring, Winter, Summer. Staff  
Study of literature in Poultry Husbandry and other fields related to poultry. Emphasis will be given to the preparation, organization and presentation of research material by students and to reporting of current literature in the field. Designed for seniors in Poultry or Animal Husbandry as well as graduate students.
610. Advanced Poultry Nutrition (5). Lec. 5. Summer. Howes  
An advanced study of the nutrients, their function and the nutritional requirements of poultry.
611. Advanced Poultry Management (5). Lec. 5. Summer. Cottier  
An advanced study of the principles of management of commercial poultry flocks.
612. Advanced Poultry Diseases (5). Lec. 1, Lab. 8. Spring. Pr., PH 408 or consent of instructor. Edgar  
Isolation, cultivation, and identification of bacterial, fungal, and viral agents. Emphasis on biochemical aspects of microbial and nutritional diseases and the mechanisms of the immune response.

613. **Advanced Poultry Diseases (5).** Lec. 1, Lab. 8. Summer. Pr., VM 418 and PH 612, or equivalent. Edgar  
A continuation of PH 612 with emphasis on those disease conditions caused by protozoa, helminths, and arthropods and the gross and histo pathology of diseases studied in both quarters.
699. **Research and Thesis.** Credit to be arranged. All quarters. Staff  
Technical laboratory problems related to poultry.
799. **Doctoral Research and Dissertation.** Credit to be arranged. All quarters. Staff

### Psychology (PG)

*Professors Bills and McIntyre*  
*Associate Professor Barrett-Lennard*  
*Assistant Professors Frederick, Johnson, Kelley, and Mayer*  
*Instructors Vallery and Sanders*

A psychology major on the undergraduate level earns the Bachelor of Arts degree which provides him with a broad base for further study in the field. A student who earns the Master's degree in psychology may be prepared for additional graduate work or for service in vocations such as psychometry, school psychology, personnel work in business and industry and research technician.

101. **Orientation: Personal and Professional (5).** Fall. Staff  
Personal and professional orientation through reading improvement, individual guidance, library instruction, and analysis of the fields of Psychology.
211. **General Psychology (5).** All quarters. Staff  
An introduction to the scientific study and interpretation of human behavior. Consideration of such topics as learning, motivation, emotion, intelligence, perception, personality, and inter-personal relationships will be undertaken.
213. **Growth and Development of School Age Children (5).** Staff  
The physical, psychological, and social developments of children in grades one to twelve with emphasis on environmental contributions to development. (Not open to students with credit in PG 345 or PG 447.)
214. **Educational Psychology (5).** All quarters. Pr., PG 213. Staff  
A study of the development of the individual during the school years from the standpoint of physical growth and mental growth with special attention to the relationship of the school and the individual's concept of learning, attitude, personality, and mental health.
301. **Promoting Optimum Development (5).** Pr., PG 214. Staff  
An examination of concepts of psychological maturity and ways of aiding its development in classrooms.
310. **Reading Improvement (3).** Lec. 1, Lab. 4. General elective. (Not open to students with credit in PG 101.) Staff  
A thorough diagnosis of each individual student's present degree of efficiency in the reading process; to design an individual program of improvement for each student.
311. **The Behavior of Man (3).** General elective. Staff  
The humanistic aspects of general psychology emphasizing theory and principles of the science of the behavior of man. Includes topics such as: individual differences, motivation, world of form and space, personality in a social environment, and the assessment of man. (Not available to students who have taken PG 211. May be used as prerequisite for PG 325, PG 330, PG 345.)
325. **Psychology of Personality (5).** Pr., PG 211 or departmental approval. Bills, Lennard, Mayer  
An examination of the nature of personality adjustment with special emphasis on development factors. Topics to be considered are motivation, theories of adjustment, the defense mechanisms, the evaluation of personality, and mental hygiene.
330. **Social Psychology (5).** Pr., PG 211. Bills, Mayer  
Effects of the group upon individual and social behavior. A study of the biological antecedents of social behavior; leadership; attitudes; suggestions; institutions; and social conflict.
340. **Psychometric Methods (5).** Pr., PG 211 and MH 107 or departmental approval. Kelley  
The arrangement and treatment of psychological data, application of techniques of data treatment to various psychological areas. Laboratory work in the analysis of experimental data.
345. **Child Psychology (5).** Pr., PG 211. Johnson, Mayer  
The physical, psychological, and social development of the child and the relation of the child's environment to his development. Special problems of child training in the family and of social adjustment at school will be discussed. (Not open to students with credit in PG 213.)

360. **Applied Psychology (5).** Vallery  
A survey of the contributions of psychology to the fields of advertising, consumer research, selling, medicine, education, law and clinical practice and other professions.
410. **Advanced Psychology (Principles of Behavior) (5).** Pr., PG 211, junior standing. Kelley, McIntyre  
A detailed and systematic examination of the principles underlying the basic psychological processes of development; perception, learning, thinking, emotion, and motivation.
414. **History of Psychology (5).** Pr., 5 hours of Psychology, junior standing. Staff  
The historical development of modern psychology. The course deals with the nature of the psychological problems that have been raised at different periods and the attempts at solution of these problems.
420. **Experimental Psychology (5).** Lec. 2, Lab. 6. Pr., PG 211 and PG 340 or departmental approval, junior standing. Kelley  
Methods, techniques, and materials required in experimentation in learning, memory, and thinking. The laboratory work is designed to illustrate the basic principles in psychology and give the student first-hand opportunity to study an individual or group of individuals relative to psychological processes.
430. **Integration of Behavior (5).** Pr., PG 211 or PG 212, junior standing. Bills, Lennard  
An integration of psychological concepts and information in areas such as leadership, personality, group interaction, and learning in relation to problems of people and problems of working with people.
434. **Mental Hygiene (5).** Pr., 5 hours of Psychology, junior standing. Bills, Lennard, Vallery  
An extended study of adjustment problems, techniques of adjustment, case studies, procedures in diagnosis, and treatment.
435. **Abnormal Psychology (5).** Pr., junior standing, 10 hours of Psychology including PG 211. Bills, Lennard  
This course covers various abnormal forms of behavior, with reference material drawn from clinical sources. Problems of interest to the social worker and criminologist will receive attention. Field trips when possible will be taken.
445. **Comparative Psychology (5).** Pr., 10 hours of Psychology, junior standing. Kelley  
Principles of behavior in infra-human organisms, with emphasis upon vertebrates. Special attention given to experiments on motivation, innate behavior, learning, retention and problem solving.
446. **Physiological Psychology (5).** Pr., junior standing, 10 hours of Psychology. Kelley  
A study of the physiological mechanisms underlying certain of the basic behavioral processes accompanying sensation and emotions.
447. **Adolescent Psychology (5).** Pr., junior standing, PG 211 and PG 345 or departmental approval. Johnson, Mayer  
A continuation of PG 345 covering development and maturation during adolescence with emphasis on the problems of the adolescent's adjustment to his personal and social environment, with special applications to family and school life. (Not open to students with credit in PG 213.)
455. **Tests and Measurements (5).** Lec. 3, Lab. 4. Pr., junior standing, PG 211, MH 107, PG 340, or departmental approval. Johnson, Mayer  
A survey of the field of psychological examination and measurement, covering the testing of various aptitude, intelligence, personality characteristics and interests. Laboratory work will involve practice in giving, scoring, and interpretation of tests and other techniques.
461. **Industrial Psychology (5).** Pr., junior standing. McIntyre  
A survey of the uses of Psychology in business and industry. The course will include projects in personnel selection and classification, familiarization with tests commonly used in industry; management of men on the job, their training, efficiency, morale, attitudes, and achievement. Practical, quantitative, psychological research techniques used in personnel work will be demonstrated.
462. **The Psychology of Training and Supervising Industrial Personnel (3).** Pr., junior standing. McIntyre  
Application of the principles of learning to the training of factory, office, and sales employees. Utilization and evaluation of training devices. Psychological techniques in foreman training. The Training Within Industry programs such as Job Instruction Training, Job Methods Training, and Job Relations Training will be demonstrated and discussed from the psychological viewpoint.
463. **The Psychology of Interviewing and Classifying Industrial Personnel (3).** Pr., junior standing. McIntyre  
Principles of interviewing, learning how to interview, training interviews, and field inves-

tigation. Interviewing in industrial situations, employment and upgrading, occupational adjustment, industrial counseling, oral examining in civil service agencies, and employer-employee disciplinary and exit interviews. Introduction to the Dictionary of Occupational Titles will also be included.

490. **Special Problems in Psychology (3 to 8).** Pr., junior standing, departmental approval. Staff

An individual problems course. Each student will work under the direction of a staff member on some experimental or theoretical problem of mutual interest.

#### GRADUATE COURSES

601. **Enhancing Human Development (5).** Bills

An examination of concepts such as the normal personality, the open person, the process person, and optimum development with emphasis on school and other environmental influences in their development.

610. **Modern Viewpoints in Psychology (5).** McIntyre

An integration course examining a number of viewpoints in psychology, including structuralism, behaviorism, functionalism, purposive psychology. Gestalt psychology, and psychoanalysis.

611. **Advanced Psychometric Methods (5).** Pr., MH 127, PG 340, PG 420, PG 455, or permission of the instructor. Kelley

A continuation of PG 340 which includes statistical theory of error and measurement, indices of reliability and validity, norm development, and other research tools and techniques.

615. **Design of Experiments (5).** Pr., PG 611. Kelley

Construction of theory and the formulation of empirical generalizations in terms of logical and statistical advantages and limitations in experimental design.

617. **The Psychology of Learning (5).** Bills, Kelley, McIntyre

A study of the problems and theories of learning with emphasis on individual differences.

620. **Advanced Experimental Psychology (5).** Lec. 2, Lab. 6. Kelley

Experimental investigation illustrating basic problems in the field of maturation, fatigue, reflex action, emotion, learning and social functions.

631. **Advanced Social Psychology (5).** Mayer

An evaluation of the various theories explaining social behavior. Consideration and performance of experiments in the field of attitude, prestige and suggestion, social climate, and propaganda.

634. **Advanced Mental Hygiene (5).** Bills, Lennard

Emotional satisfactions and adjustment mechanisms of children and adolescents. Behavior disorders and meliorative action for promoting favorable physical, intellectual, social, and emotional growth during formative years, including emphasis on complex personality factors.

637. **Advanced Abnormal Psychology (5).** Bills, Lennard

Continuation of Psychology PG 435 with emphasis on case studies and the classification of abnormal groups. Field trips will be taken when possible.

651. **Research Studies in Psychology (5).** Staff

Study on a problem by using research techniques. The problem will be selected in consultation with the professor who will supervise the study. The problem should be one which will contribute to the program of the student.

654. **Individual Testing (5).** Lec. 3, Lab. 4. Pr., 20 hours in Psychology. Mayer

The theory and practice of measurement of intellectual performance in the individual. Students will be permitted to select either the Binet or Wechsler for practice, depending upon their interests.

655. **Construction and Evaluation of Tests (5).** Mayer

Theory of test construction; construction of test items; item analysis; reliability; methods of test validation; the combining of tests into batteries.

656. **Advanced Psychological Measurements (5).** Pr., PG 455, PG 654 or departmental approval. Mayer

The nature, administration, and use of complex psychometric instruments in the areas of intelligence, performance, and personality.

- 671-2. **Projective Theory and Techniques I & II (5-5).** Pr., departmental approval. Lennard

Intensive study of the foundation and theory of projective diagnosis in clinical psychology. Supervised practice in administering, scoring and interpreting projective tests; intensive case study work. Emphasis is placed upon interpretation of the tests in reference to different personality structure and diagnoses of these differences.

690. **Seminar (1-5).**

Course may be repeated for a total not to exceed 10 hours credit.

699. **Research and Thesis.** Credit to be arranged. Staff

### Religious Education (RE)

301. **Religion and Modern Thought (3). General elective.**  
A course dealing with the relation between the philosophical foundations of Christianity and modern thought in other fields.
303. **Christian Ethics (5).**  
The application of Christian Ethics to current problems, the relationship of Christian and personal ethics, and other phases of the science of right conduct and morals are brought out in the course.
304. **The Bible as Literature (5).**  
A survey of the types of literature in the books of the Bible, including reading and study of selected examples of different forms of poetry and prose, and observation of the religious truths and spirit of each selection. Consideration of the influence of the Bible on modern literature will be noted.
305. **Comparative Religions (3). General elective.**  
A study of the principal readings of the world, including readings in the history and literature of the people whose religions are discussed.
306. **Studies in the Gospels (3). General elective.**  
A study of the characteristics of the Gospels and the harmony among them.
307. **History of the Christian Church (3). General elective.**  
A history of the Christian Church from the close of the New Testament period to the present time with chief emphasis upon the development in Western Europe and in the United States.
308. **The Epistles of Paul (3). General elective.**  
A study of the Epistles of Paul in the New Testament; their dates, backgrounds and arguments; the major emphases of Paul's thought; particular studies of portions of Thessalonians, I Corinthians and Romans to demonstrate typical Pauline themes.
309. **The Prophets of Israel (3). General elective.**  
A history of the Hebrew religion as the background of Christianity. Selected figures of the Old Testament are studied; each seen in his own day seeking to interpret his times in light of the eternal messages he was called to deliver.

### Secretarial Training (ST)

*Assistant Professors Beck\*\* , Hale, Lamar, and Waldo*  
*Instructors Evans and Brown\**

101. **Secretarial Science I (5). Lec. and Lab. 10.**  
The first of a series of four courses in which the student develops the ability to prepare mailable copy. Student begins the study of typewriting and Gregg system of shorthand. One hour per day is devoted to each. Primary emphasis is in the development of correct techniques in both skills. (Not open to students who have not had the equivalent of one unit of H.S. typing. Such students without typing should first take ST 111.)
102. **Secretarial Science II (5). Lec. and Lab. 10. Pr., ST 101.**  
Continuation of ST 101.
111. **Business Typewriting (5). Lab. 10. Not open to those with credit in ST 113 or who have one high school unit in typing.**  
Course for beginners dealing with elements of typewriting to gain facility in the preparation of letters and reports, typing from rough draft, tabulations, the cutting of stencils, and general typing.
113. **Personal Typewriting (3). General elective. Lab. 6. Not open to those with credit in ST 111 or who have one high school unit in typing.**  
Introductory course designed for student who wishes to learn typewriting for personal use. Emphasis on touch control of keyboard, centering, appropriate styles for letters, and the preparation of reports. More time spent on the application of fundamentals than on speed.
200. **Filing (1).**  
Methods and procedures of filing.
203. **Secretarial Science III (5). Lec. and Lab. 10. Pr., ST 102.**  
Emphasis on developing production rate on jobs approximating those of a business office. Review of shorthand theory, building shorthand writing speed, and laying a foundation on which to build transcription skill.
204. **Secretarial Science IV (5). Lec. and Lab. 10. Pr., ST 203.**  
Development of transcription ability through the fusion of skills in typewriting, reading shorthand, spelling, grammar, handling supplies, etc. Continuation of shorthand review and dictation speed.

\* Temporary.

\*\* On leave.



300. **Secretarial Procedure (5).** Pr., ST 204 and junior standing.  
Analysis of the secretarial profession stressing importance of personal factors, the responsibilities of the secretary, and the study of specialized duties. Related work assignments give practice in typical secretarial activities.
301. **Dictation (5).** Pr., ST 204 and junior standing.  
Increased rate of dictation to 120 words per minute and further development of transcription speed.
302. **Office Machines (5).** Lab. 10. Pr., EC 211 or equivalent, and the ability to type at a reasonable speed.  
Course designed to give the student a working knowledge of various machines found in modern offices. Basic training in use of voice-writing, duplicating, adding, calculating, and posting machines.
303. **Advanced Office Machines (5).** Lab. 10. Pr., ST 302 or equivalent.  
Advanced training in use of office machines including addressing machines and a survey of the statistical and accounting applications of modern office equipment.
401. **Dictation (5).** Pr., ST 301 and junior standing.  
More difficult and technical dictation and transcription organized around several types of vocations.
402. **Office Apprenticeship (5).** Lab. 10. Pr., ST 300 and ST 301 and junior standing.  
Practical secretarial training. Student spends two hours each day working in an office to which he is assigned for actual office experience.

### Sociology (SY)

*Professor Sanders*

*Associate Professor Hartwig*

*Assistant Professors Bliss and Shields*

*Instructor French\**

Sociology offers preparation for students whose interests lie in the field of human behavior. In the curriculum provided for sociology one finds undergraduate training for such vocational goals as teacher of social sciences; employment in various agencies as public welfare, work with Red Cross, Scouting, and religious organizations; and careers in government or military service. Also available are service courses in industrial sociology and social problems, to provide additional understanding for those majoring in other fields of study.

Students majoring in sociology are required to complete, beyond Introduction to Sociology (SY 201), a minimum of thirty-five hours in the major field of study. This major will include the following courses: Social Problems (SY 202), Cultural Anthropology (SY 203), and Social Thought (SY 309). In addition, each sociology major is required to have Statistics (EC 345), which would be included among his five-hour electives.

When planning his schedule for each quarter in the Junior and Senior years, each sociology major is strongly urged to report to a member of the sociology staff for consultation and advice.

201. **Introduction to Sociology (5).** Pr., sophomore standing and qualified third quarter freshman with departmental approval. Staff  
The principles and processes influencing the social life of man.
202. **Social Problems (5).** Pr., SY 201. Shields  
Current social problems with special reference to the socially inadequate.
203. **Cultural Anthropology (5).** Pr., sophomore standing. Sanders  
The nature of culture, using materials taken from scientific studies of societies.
204. **Social Behavior (5).** Pr., SY 201 or PG 211. Hartwig  
The integrated social-anthropological, biological and psychological factors which influence or determine human behavior; the emphasis is upon the normal average individual and/or group situations.
205. **Preparation for Marriage (3).** General elective. Bliss  
Basic factors in dating courtship, mate selection and engagement in preparation for marriage and family living.
301. **Sociology of the Family (5).** Pr., SY 201 and junior standing. Sanders  
The family in contemporary society.
302. **Criminology (5).** Pr., SY 201 and junior standing. Shields  
The causes of crime and its social treatment. Field trips required.

\* Temporary.

304. **Minority Groups (5).** Pr., junior standing. Shields  
Racial composition of the United States with special emphasis upon the adjustment of minority groups to the culture.
305. **Rural Sociology (5).** Pr., SY 201 and junior standing or consent of instructor. Bliss  
The nature and organization of the rural community with special emphasis to be given to the culture, social organization and social problems of the rural people.
307. **The Court and Penal Administration (3).** General elective. Shields  
An analysis of the experience of the law breaker from arrest through the court and prison to the eventual return to society. Particular attention is paid to correction. To be offered in alternate years.
308. **Juvenile Delinquency (5).** Pr., SY 201. Shields  
A survey of historical and contemporary considerations relative to the juvenile offender. The emphasis is upon research data from the various sciences attempting to deal with this problem.
309. **Social Thought (5).** Pr., junior standing and SY 201 or consent of instructor. Hartwig  
A survey of significant social thought leading to the emergence of modern sociological theory.
310. **Social Organization (5).** Alternate years. Pr., SY 201 or consent of instructor. Staff  
The structure and stratification of society with particular attention given to the contemporary scene.
311. **Technology and Social Change (3).** General elective. Pr., junior standing. Franklin, Bliss, Hartwig  
The relationship between technological development and changes in modern society. Special emphasis is placed upon the human relations aspects of modern science. Designed primarily to meet social science needs of students in the fields of engineering, agriculture, education, and the physical sciences.
312. **Marriage Adjustments (3).** General elective. Pr., junior standing. Sanders  
A survey of emotional, social and biological factors in the family setting with emphasis upon adjustments of marriage and parenthood.
401. **Population Problems (5).** Pr., senior standing. Hartwig  
The problems of quantity and quality of population including problems of composition, distribution and migration. Attention is given to Alabama population.
403. **Regional Sociology (5).** Pr., senior standing, SY 201 or consent of instructor. Staff  
The sociological concept of regionalism. Analysis of regional social phenomena and problems with emphasis on the South.
405. **Urban Sociology (5).** Pr., senior standing. Hartwig  
The growth and decline of cities with special emphasis on ecological and demographic characteristics, associations and institutions, class systems, and housing and city planning.
406. **Introduction to Social Case Work (5).** Pr., senior standing. Bliss  
The development of social case work and a survey of modern social case work practice. Primarily for those students intending to enter the profession of social case work or related fields.
407. **Public Opinion and Propaganda (5).** Pr., junior standing, SY 201 and SY 204 or PG 330 or consent of instructor. Sanders  
A survey course in the area of social communication. A study of the formation, place and importance of publics in modern society, of public opinion research, and of propaganda and public relations techniques.
408. **Industrial Sociology (5).** Pr., junior standing, SY 201, and EC 442 or IM 306 or consent of instructor. Staff  
An introductory survey of the sociological approach to business organization and industrial relations. Emphasis is given to organizational principles operative in the economic life within a social system such as a factory or business establishment.
409. **Sociology of Religion (5).** Pr., SY 201, senior standing, or consent of instructor. Sanders  
An analysis of religion as a social institution as found in the world's great religions. To be offered in alternate years.

## GRADUATE COURSES

451. **Sociology of Rural Life (3).** Lec. 4. Pr., graduate standing. Robbins  
An advanced presentation of the field of rural sociology with consideration of the social structures and social processes of rural social systems. Credit for SY 305 precludes credit for this course. This course primarily for credit at off-campus centers.

602. Seminar in the Family (5). Pr., SY 301 or HE 304 or consent of instructor. Sanders  
An advanced study of the institutional nature of marriage and the family with particular emphasis upon the changing practices and notions in marital relationships as they are related to changes in the structure and functions of the family.
604. Seminar in Race and Culture (5). Pr., SY 201 and SY 304 or consent of instructor. Staff  
The adjustment of races to culture with particular reference to the South; the historical and cultural background of the races in America; bi-racial system; problems of race relations.
650. Sociology Seminar (5). Pr., graduate standing or consent of instructor. Hartwig, Sanders  
Designed for those students engaged in intensive study and analysis of sociological subject areas.
651. Regionalism and Rural Life (3). Lec. 4. Pr., graduate standing. Staff  
The regionalist orientation and its application to rural living with specific attention to the Southern Regions of the United States. Topics covered will include interregional influences, subcultural variations, ecological patterns, topographical features and temporal consideration.
652. Social Organization and Community Living in Rural Areas (3). Lec. 4. Pr., graduate standing. Staff  
A presentation of the organization of rural society and an application of the group dynamics perspective to rural community life, problems in rural living, and proposals for facilitating action programs in rural areas such as leadership development, group analysis and participation, and effective community organization.
- NOTE: All 400 (except SY 406) and 600 level courses are available for a graduate minor in Sociology.

### Speech (SP)

Head Professor Davis

Professor Smith

Associate Professor Ranney

Assistant Professors Green, Hardigree, Sanders

Instructors Dorné\*, Gray, Kirby, Moore\*, Rea, and Torrans

The Speech program is designed: 1) to furnish adequate fundamental courses for all schools on the campus; 2) to provide elective courses for students interested in the various Speech fields; 3) to offer a Speech major and minor in the schools of Education and Science and Literature; 4) to offer a Speech Therapy major and minor in the School of Education. Students electing a Speech or Speech Therapy major or minor should confer with the Speech staff to plan their programs.

The Speech major, planned as a broad program, provides training for students interested in: 1) pre-professional courses such as law or ministry; 2) basic professional training such as teaching, salesmanship, radio-television, and correction; 3) a general education. Consequently the courses in Speech should be distributed over the six areas of: A) Correction and Voice Science, B) Group Methods, C) Fundamentals, D) Interpretation, E) Public Address, F) Radio and Television.

The Speech major or minor in the School of Science and Literature is governed by the general regulations stated on page 183, and is required to include among his major courses SP 229, 231, 241 and a minimum of one course from subject areas B, D, and F above. The Speech and Speech Therapy majors in the School of Education are governed by the regulations stated on pages 143 and 146.

In addition to the courses below the Speech Department maintains a Speech and Hearing Clinic which offers individual assistance to persons desiring aid in overcoming speech or hearing defects. Applicants for this service should see Dr. Ranney.

229. Voice and Diction (5). All quarters. Staff  
A course affording opportunity for individual work in voice development and problems of pronunciation and articulation. Emphasis on drill and practice plus lectures in theory.
231. Essentials of Public Speaking (5). All quarters. Staff  
Designed to aid the student through a study of theory and actual practice in addressing an audience. How to gather materials, organize and deliver an effective speech. (Credit in this course excludes credit in SP 305.) A special section of SP 231 will be offered for foreign students only.
235. Interpretative Reading (5). Fall, Winter. Gray  
A course offered toward teaching the student how to read aloud, to communicate ideas clearly, forcibly and interestingly from the printed page.

\* Temporary.

- 241. Survey of the Bases of Speech (5). Spring.** Davis  
Designed to acquaint the prospective speech major or minor with the fundamentals of speech, the psychological, sociological, and other bases.
- 253. Group Leadership (3). Fall, Winter. General elective.** Smith  
Considers the nature and functions of group leadership; the role of democratic leadership in organizing and conducting a group meeting to reach the aims of that group. Students gain leadership experience in class activities designed to help them learn and perfect democratic leadership techniques.
- 273. Group Discussion (5). All quarters.** Smith  
Theory and practice of the lecture-forum, round table, symposium and other types of discussion. How to gather materials, organize and participate in or lead such enterprises.
- 283. Argumentation and Debate (5). Fall.** Rea  
A study of debating techniques and procedures; their application to issues of current public interest; the gathering, organization, and presentation of facts, proofs, evidences.
- 301. Phonetics (5). Fall. Pr., junior standing.** Hardigree  
A study of the principles of phonetics and their application to speech.
- 305. Public Speaking (3). All quarters. General elective.** Staff  
Designed to aid the student in the preparation and delivery of an effective public speech. Emphasis is on the speech to inform and the speech to convince. (Credit in this course excludes credit for SP 231.)
- 316. Parliamentary Procedure (3). All quarters. General elective.** Staff  
Designed to aid the individual who may lead or participate in discussions or organizations where orderly procedure is needed. Theory and practice both employed.
- 321. The Speech Mechanism (5). Spring. Pr., junior standing.** Ranney  
The study of the anatomy and physiology of the speech mechanism as applied to normal defective speech.
- 331. Advanced Public Speaking (5). Winter, Spring. Pr., SP 231 or 305, or by consent of instructor.** Davis  
Structure, style, and delivery of various types of speeches for different occasions. Speeches to inform, to persuade, and to entertain are stressed. Theory and study of current examples combined with practice.
- 334. Great American Speeches (3). All quarters. General elective.** Davis  
A critical study and comparison of representative outstanding American speeches; the issues with which they were identified; their relation to the social scene.
- 335. Advanced Interpretation (5). Spring. Pr., SP 235.** Gray  
A course directed to help the student in interpreting and communicating the meaning of literature; to read both prose and poetry in a manner that will give pleasure and will secure understanding.
- 337. Fundamentals of Radio and Television Broadcasting (5). Fall, Winter, Pr., SP 231 or 305 or consent of instructor.** Sanders  
An introductory course to acquaint the student with the non-technical field, including announcing, programming, continuity and coordination of activities.
- 338. Modes of Film Communication (5).** Sanders  
A survey of the film industry's contribution to television and other forms of mass communication; an analysis of the styles and forms of film production as entertainment, communication, education and art.
- 340. Speech Reading (5).** Hardigree  
Description and discussion of the major speech reading (lip reading) principles and theories; analysis of the patterns of instruction of children and adults; clinical practice.
- 341. Hearing Tests and Instruments (5).** Hardigree  
Theory and practice of individual and group hearing tests; audio-metric instruments; clinical practice.
- 353-34. Advanced Argumentation and Debate (3-3). All quarters.** Rea  
A laboratory course in the work. Intra-class and inter-collegiate debate primarily. (Available only to members of the Debate Squad at hours to be arranged.)
- 385-86. Radio Workshop (3-3). All quarters. Pr., SP 337.** Kirby  
Advanced and practical laboratory experience in presenting news, dramatic and variety type programs over local stations.
- 387-88. Television Workshop (3-3). All quarters. Pr., SP 337.** Sanders  
Practical laboratory work in the field of television with experience in the local Educational Television studios working in all phases of the medium. Available at hours to be arranged.
- 411. Introduction to Problems in Hearing (5). Winter. Pr., junior standing.** Hardigree  
A study of the principles of auditory reception, the hearing mechanism, and the problems involved in measuring, evaluating, and conserving hearing.

431. Principles of Speech Correction (5). Fall, Winter, Summer. Pr., junior standing. **Ranney**  
A course designed to enable students to learn how to identify speech defective cases and to learn various types of survey techniques. Students will learn how to handle simple functional articulatory and voice cases. A fundamental course for speech correction practice.
432. Advanced Speech Correction (5). Spring, Summer. Pr., junior standing, SP 431 or equivalent. **Ranney**  
A continuation of SP 431.
437. Advanced Radio Broadcasting (5). Spring. Pr., junior standing and SP 337 or consent of instructor. **Sanders**  
A continuation of SP 337. An advanced course in announcing techniques, program organization, audience analysis, recording, sound effects, directing.
438. Radio, Television and Film Writing (5). **Sanders**  
A study of the forms, techniques and types of writing as they apply to radio, television and films. Special emphasis will be placed on practical writing performance. Units will cover the writer's use of picture, sound and special production devices as they apply to the three media.
439. Television in Education (5). **Sanders**  
A study of the uses, problems, potentialities and current developments in educational television; observation of and participation in the University educational television activities and productions.
441. Hearing Pathology (5). Pr., SP 411 or equivalent. **Hardigree**  
Evaluation and rehabilitation of aural handicapped children and adults; hearing aids and auditory training; clinical practice.
442. Persuasive Speaking (5). Fall. Pr., junior standing and SP 231 or 305 or consent of instructor. **Green**  
Influencing individuals and audiences by means of spoken appeals. Salesmanship speaking. Analysis of the forces which lead to belief and action. Practice in organizing and presenting such appeals.
473. Advanced Discussion (5). Spring, Summer. Pr., junior standing and SP 273 or consent of instructor. **Smith**  
The study of, and practice in, the theory and organization of discussion and conference groups including the individual speakers. A course designed primarily for those who will work with groups, e.g., teachers, county agents, Home Demonstration Agents, Athletic Directors, Industrial Coordinators.

## GRADUATE COURSES

631. Speech Pathology (5). Fall, Summer. Pr., SP 431, 432 or equivalent. **Ranney**  
An advanced professional course focusing upon etiological and diagnostic factors in psychogenic and organic disorders of speech.
632. Clinical Methodology (5). Spring, Summer. Pr., SP 431, 432 or equivalent. **Ranney**  
The principal methodologies and techniques currently employed in the management of the principal disorders of speech. Practical experience in dealing with actual cases.
673. Seminar in Discussion (5). Spring, Summer. Pr., SP 273 or equivalent. **Smith**  
The leadership role in public discussion. Includes a survey of published experimental work in discussion and considers the value and limitations of discussion as a tool of the group leader. Special attention is paid its application to problems in education, business, industry, and agriculture.

## Textile Technology (TT)

Professor Adams

Associate Professors Knight and Waters

Assistant Professor Cox

101. Introduction To Textiles (1).  
An orientation course for freshmen which briefly introduces all branches of the textile industry.
210. Fiber Processing (5). Lec. 4, Lab. 3.  
Study of construction and operation of equipment for opening, cleaning, blending, picking, carding, combing, drawing; adaptation of these processes to synthetics and wool; calculations necessary for the planning and operation of this equipment.
211. Yarn Manufacture I (5). Lec. 4, Lab. 3.  
Study of construction and operation of roving and spinning equipment for cotton, wool, and synthetics; long draft systems and special drafting, systems for blends, etc.

220. **Weaving and Designing I (5).** Lec. 4, Lab. 3.  
Study of automatic cam loom mechanism with designing of fabrics made on these looms.
221. **Weaving and Design (4).**  
Lecture part only of TT 220 (for students in Interior Design).
304. **Textile Fibers (2).** Lec. 1, Lab. 3.  
Study of textile raw materials, including cotton, rayon, nylon, wool, flax, etc.
307. **Bleaching and Dyeing (5).** Lec. 4, Lab. 3.  
Bleaching, dyeing, and finishing of natural and synthetic textiles; all types of dyes for textiles, their application and fastness are studied; survey of all finishes used on textile fabrics.
317. **Dyeing and Finishing (5).**  
Plant application methods and plant problems in dyeing and finishing of natural and synthetic textiles.
318. **Physical Testing (2).** Lec. 1, Lab. 3. Pr., junior standing.  
Testing procedures, laboratory use of textile testing equipment, and interpretation of data obtained in physical testing.
319. **Chemical Testing (2).** Lec. 1, Lab. 3. Pr., junior standing.  
Procedures and laboratory work on all types of textile tests which are of a chemical nature; analysis of textile chemicals.
320. **Weaving and Designing II (5).** Lec. 4, Lab. 3. Pr., TT 220.  
Dobby and special weaving attachments and designs applicable to the type of loom. Leno, terry, and extra warp fabrics.
321. **Weaving and Designing III (5).** Lec. 4, Lab. 3. Pr., TT 320.  
Mechanisms and patterns requiring multiple systems of filling; box motions; practical weaving problems; filling backed, double, and triple fabrics; weaving mill machinery layout and labor organization.
322. **Yarn Manufacture II (5).** Lec. 4, Lab. 3. Pr., TT 210 and TT 211.  
Methods of obtaining higher quality yarns; yarn production planning; practical manufacturing problems; yarn mill machinery layout and labor organization.
323. **History of Textiles (5).** Pr., sophomore standing.  
A study of the textile industry dating back some 6,000 years; types of weaves, colors, designs, and methods of making fabrics during different periods; fibers used, production and consumption of major textile products; the development and importance of the textile industry.
405. **Warp Preparation (5).** Lec. 4, Lab. 3. Pr., junior standing.  
Preparation of warp yarn for weaving.
406. **Textile Costing (5).** Pr., junior standing.  
Basic principles for figuring textile production costs; allocation of costs; fabric cost sheet; marketing costs.
412. **Textile Management (3).** Pr., junior standing.  
Analysis of management problems in textile industry including policy determination, job analysis, work loads, training, organization, plant layout, etc.
414. **Textile Fibers II (5).** Pr., senior standing.  
Origin, characteristics, and properties of the various textile fibers, both natural and synthetic.
417. **Textile Microscopy (5).** Lec. 3, Lab. 6. Pr., PS 202 and senior standing.  
Optical and microscopical analysis of textile fibers, yarns, and fabrics; special applications of photomicrography and polariscopic analysis.
418. **Jacquard Weaving and Design (2).** Lec. 1, Lab. 3. Pr., TT 220 and junior standing.  
Jacquard mechanism and design of original patterns for jacquard loom.
422. **Synthetic Fibers I (5).** Lec. 4, Lab. 3. Pr., junior standing.  
Manufacturing and processing.
426. **Synthetic Fibers II (5).** Pr., CH 208.  
Technological aspects of the processes involved in the manufacture of such synthetic fibers as viscose rayon, acetate rayon, nylon, vinyon, aralac, glass.
430. **Fabrics (3).** Pr., junior standing.  
Identification, construction, and use of basic and special fabrics; classification and sources of fabric defects.
431. **Fabric Analysis (3).** Lec. 2, Lab. 3. Pr., TT 320.  
Analysis of fabric structure and determination of specifications.
432. **Finishing and Printing (5).** Lec. 4, Lab. 3. Pr., TT 317 and CH 316.  
A chemical study of textile finishes and their application, printing equipment and methods, printing paste preparation, etc.



## Veterinary Medicine (VM)

### Departments

The School of Veterinary Medicine is organized under six departments. They are listed below with the instructors and a general statement of facilities and methods of instruction given for each department.

#### Anatomy and Histology

*Head Professor Fitzgerald*  
*Associate Professor Whiteford*  
*Assistant Professor James*  
*Instructor Holloway*  
*Technician Dennis*

Instruction in the department consists of lectures, recitations and laboratory work. Numerous charts, photographs, lantern slides, and permanent anatomical specimens are employed for demonstration.

In anatomy laboratory embalmed specimens of the horse, ox, sheep, pig, dog, and fowl are dissected, with special attention being directed to practical areas of anatomy. Since the feel of tissue is requisite to good surgery, the student does all dissection and helps with embalming under observation of the instructor.

The extensive departmental collection of permanent microscopic slides and demonstration materials serve as a basis for instruction in histology and embryology. An understanding of normal tissue and development is essential for diagnosis and the apprehension of clinical medicine.

#### Bacteriology

*Head Professor Neal*  
*Associate Professor Attleberger*  
*Assistant Professor Teresa*  
*Instructors Crawford and Miller*

The Department of Bacteriology offers opportunity for study of microorganisms, other than protozoa and animal parasites. Emphasis is placed on bacteria, molds, rickettsiae and viruses as causes of diseases, microbial processes in nature and industry, and the characteristics of the various microorganisms involved.

Courses are offered that are designed for students in various fields of study; e.g., agriculture, home economics, laboratory technology, pharmacy, sanitary engineering and veterinary medicine.

Lectures are supplemented with technical laboratory work and demonstrations. Courses for veterinary students are required in general and pathogenic bacteriology, mycology, virology and immunology. Modern facilities are available, permitting microbiological laboratory diagnosis in conjunction with the clinics.

#### Pathology and Parasitology

*Head Professor Bailey*  
*Associate Professor Groth*  
*Assistant Professor Lindsey*  
*Instructors Diamond, Teer, and Woodard*  
*Technicians McConnell and Collins*

The courses in this department are designed to give the pre-clinical student a basic understanding of the fundamental anatomic and physiologic alterations of disease. Particular attention is given to the manifestations of animal diseases in the organs and systems of the body and to the laboratory procedures which are employed as an aid in their diagnosis. During the junior and senior years small groups of clinical students are given close supervision as they assist in performing autopsies and making examinations in the clinical pathology laboratory.

Fresh specimens from the clinics and autopsy room supplement the permanent materials (histologic sections, gross museum specimens, and color transparencies) to provide ample material for use in the laboratory work.

The department also cooperates with the Veterinary Diagnostic Laboratory, State Department of Agriculture and Industries, in the diagnostic service it renders the veterinarians and animal owners of the state.

## Physiology and Pharmacology

*Head Professor Clark*  
*Professor Dacres*  
*Associate Professor Burns*  
*Assistant Professor Woodley*  
*Instructors Kling and Robertson*  
*Technician Crutcher*

Physiology, being the study of the normal functions of the various organs of the body, is taught by means of lectures and laboratory work. In the laboratory the student is shown how the organs and their secretions function so that he will recognize deviations from the normal during his later studies of disease. Live animals as well as academic demonstrations are provided for this purpose.

## Large Animal Surgery and Medicine

*Head Professor Schell*  
*Professors Evans, Gibbons, and Wiggins*  
*Associate Professor Walker*  
*Assistant Professor Vaughan*  
*Instructor Humburg*

The lecture courses outlined include a detailed study of the diseases of farm domestic animals. The laboratory work consists of large animal clinics which are provided with modern facilities for housing and treating animals requiring hospital care. The student's time is devoted to the actual application of diagnostic procedures and prophylactic, therapeutic and surgical treatment of animal diseases, both in the hospital and on farms.

Ambulatory clinic, operated in connection with the Large Animal Clinic, is required of all senior students.

## Small Animal Surgery and Medicine

*Head Professor Hoerlein*  
*Professors Heath and Evans*  
*Instructors Horne, Hunt, and Hoffer*  
*Research Assistant Hahn*

The theory and practice of small animal surgery and medicine and radiology as taught to the third and fourth year students summarizes and demonstrates the application in practice of previously received basic training in anatomy, physiology, bacteriology, pathology, parasitology, and therapeutics. This material is presented by lectures, demonstrations, laboratory exercises, and clinical instruction.

200. General Microbiology (5). Lec. 3, Lab. 4. Fall, Spring. Pr., General and Organic Chemistry. *Attleberger*  
 Especially intended for students in Pharmacy or Laboratory Technology; devoted to the fundamentals of microbiology and technical methods for the study and identification of microorganisms.
203. Immunology (5). Lec. 3, Lab. 4. Spring. Pr., VM 204. *Neal*  
 Offered for students in Laboratory Technology. Included are studies of the protective powers of the body against infection, techniques in immunology such as agglutination and precipitation reactions, Quellung test, Bordet-Gengou reaction, allergy, etc.
204. Pathogenic Microbiology (5). Lec. 3, Lab. 4. Fall, Winter, Summer. Pr., VM 200. *Teresa*  
 Especially intended for students in Pharmacy or Laboratory Technology; devoted to the study of microorganisms pathogenic to man, antibiotics, principles of immunity and laboratory diagnosis.
210. Human Physiology (5). Lec. 3, Lab. 4. All quarters. *Robertson and Staff*  
 Lectures include a study of the functions and manner of operation of the body and its parts, with special emphasis on digestion, circulation and reproduction. Laboratory exercises are used to illustrate the functions of the various organ systems of the body.

- 220-221. Human Anatomy and Physiology (5-5). Lec. 3, Lab. 4. Winter and Spring. Pr., ZY 102. Burns and Staff  
For students in Laboratory Technology and others who are qualified. A study of the structure and functions of the various organs and tissues. Human models, cats and frogs are used in the laboratory to supplement the lecture material.
311. General Bacteriology (5). Lec. 3, Lab. 4. Winter and Summer. Attleberger  
Designed for students in Home Economics. The course deals with elementary bacteriology as applied to foods, industry and home sanitation.
320. Anatomy (5). Lec. 2, Lab. 10. Fall. Whiteford, James and Holloway  
A comparative study of the osteology, arthrology, and myology of the domestic animals. This is accomplished by the comparative study of the skeleton of the different species associated with demonstration of living animals. Individual bones of all species are studied and compared. Typical articulations shown from museum preparations are compared with those of the living animal. Myology in its relation to conformation of the different types and breeds is also stressed by dissection of fresh and embalmed material.
321. Anatomy (5). Lec. 2, Lab. 10. Winter. Pr., VM 320. Whiteford, James and Holloway  
A continuation of VM 320. Dissection of ruminants, equines and carnivora. In addition to myology, splanchnology, angiology and neurology are emphasized.
322. Anatomy (5). Lec. 2, Lab. 10. Spring. Pr., VM 321. Whiteford, James and Holloway  
A continuation of VM 321. Dissection of equines, ruminants, and carnivora. Splanchnology, angiology and neurology are repeated andesthesiology is emphasized. In making the necessary dissections ample opportunity is offered for a review of arthrology and myology. The latter half of this course is devoted to the anatomy of domestic fowl and swine.
326. Histology (5). Lec. 2, Lab. 6. Fall. Fitzgerald and Holloway  
A comprehensive microscopic study of the form, structure, and recognition of the basic tissues of domestic animals.
327. Organology (5). Lec. 2, Lab. 6. Winter. Pr., VM 326. Fitzgerald and Holloway  
A continuation of VM 326. A comprehensive microscopic study of the tissue composition of organs and organ systems.
328. Embryology (5). Lec. 2, Lab. 6. Spring. Pr., VM 327. Fitzgerald and Holloway  
The study of the formation and early development of the embryos of domestic animals. Fetal membranes and placentation is emphasized.
329. Veterinary Physiology (3). Lec. 3. Winter. Clark  
A systematic survey of organic compounds commonly found in animal tissues as well as a study of the chemistry involved in various laboratory tests commonly used in veterinary medicine.
330. General Microbiology (5). Lec. 3, Lab. 4. Fall. Neal  
A study of the fundamentals of microbiology for students in veterinary medicine. This involves the biology and technical procedures used in the identification of microorganisms other than the protozoa.
331. Infection and Immunity (5). Lec. 3, Lab. 4. Winter. Pr., VM 330. Neal  
This course deals with sources and mechanisms of infection and principles of immunology biological therapy. It includes a study of the protective powers of the body and techniques of immunology, e.g., agglutination and precipitating reactions and hypersensitizations.
- 333-334. Zootechnics (3-2). Lec. 2, Lab. 4; Lec. 2. Fall and Spring. Schell and Horne  
The course is designed to acquaint veterinary students with the feeding, management, handling, training, and showing of farm and pet animals.
336. Physiology (5). Lec. 4, Lab. 3. Spring. Burns  
A comprehensive study of the functions of the nervous, circulatory and respiratory systems. For students in Veterinary Medicine.
415. General Bacteriology (5). Lec. 3, Lab. 4. Spring. Teresa  
Offered to students in Sanitary Engineering. The course deals with basic principles of bacteriology and emphasizes the relationship of bacteria to foods, water, sewage and disease.
420. General Microbiology (5). Lec. 3, Lab. 4. All quarters. Miller  
A study of the principles of microbiology involving morphology, classification, metabolism, identification, cultivation and distribution of bacteria, viruses and molds; also basic principles of applied microbiology.
421. Animal Physiology (5). Lec. 5. Winter. Woodley  
This is a study of the physiology of the farm animals with special emphasis on digestion, endocrinology and reproduction.

- 422. Animal Disease Control (5). Lec. 5. Spring. Pr., VM 420, 421. Miller**  
A study of herd management and practices proven to be of value in the prevention and control of the important diseases of animals.
- 436-437-438. Pharmacology (5-3-5). Lec. 3, Lab. 4. Fall, Winter and Spring. Woodley and Kling**  
Pharmacology, in its broad sense, embraces materia medica, pharmacology, and pharmacodynamics. Detailed consideration is given to the physiological action of drugs used in veterinary practice, methods of administration, incompatibilities, and also prescription writing and pharmaceutical arithmetic. Chemical poisons and plant poisons are studied.
- 443. Physiology (5). Lec. 3, Lab. 6. Fall. Burns**  
A detailed study of digestion and metabolism.
- 444. Physiology (5). Lec. 3, Lab. 6. Winter. Clark**  
The study of the endocrines and reproductive systems of domestic animals.
- 450. General Pathology (5). Lec. 3, Lab. 4. Fall. Pr., VM 326-327-328. Groth**  
This course is a study of the fundamental anatomic and physiologic alterations of disease. The topics discussed in lecture and demonstrated in the laboratory include disturbances in the metabolism of proteins, carbohydrates, fats and minerals; circulatory disturbances; inflammation and repair of damaged tissue; disturbances in the growth and differentiation of cells; and the pathology of tumors. Particular attention is given to the relation of these changes to the understanding and diagnosis of diseases of animals.
- 451. Systemic and Special Pathology (5). Lec. 3, Lab. 4. Winter. Pr., VM 450. Groth**  
Systemic and special pathology is a study of the manifestations of disease in the organs and systems of the animal. It includes discussion and laboratory demonstration of the changes caused by important infections, nutritional, toxic and metabolic diseases of animals. Particular attention is given to the gross and microscopic criteria on which definite diagnosis is based.
- 452. Clinical Pathology (3). Lec. 1, Lab. 6. Spring. Pr., VM 451. Teer**  
Instruction is given in the methods of collecting, preserving and submitting specimens for examination. Clinical laboratory methods of examining urine, blood, and other body fluids are performed by the students in the laboratory periods. The lectures are devoted primarily to the application and interpretation of the results as an aid to formulating a diagnosis or prognosis.
- 453. Systemic and Special Pathology (2). Lec. 1, Lab. 2. Spring. Pr., VM 451. Groth**  
A continuation of VM 451.
- 456. Veterinary Parasitology (3). Lec. 2, Lab. 2. Fall. Bailey**  
This course begins with an introduction in the science of parasitology which serves as a basis for a detailed study of the important endo parasites of the domestic animals. During this quarter the individual parasites of the ruminants are studied. Emphasis is placed on the morphology and bionomics of the parasites to provide a basis for diagnosis and control.
- 457. Veterinary Parasitology (5). Lec. 3, Lab. 4. Winter. Pr., VM 456. Bailey**  
This course is a continuation of VM 456. The internal parasites of swine, equine, dogs, cats, and poultry are covered.
- 458. Veterinary Parasitology (3). Lec. 2, Lab. 2. Spring. Pr., VM 457. Bailey**  
A study of the important ectoparasites of the domestic animals, with emphasis placed on the items listed in VM 456 for the endoparasites.
- 461. Pathogenic Microbiology (5). Lec. 3, Lab. 4. Spring. Pr., VM 331. Neal**  
A systematic study of pathogenic bacteria, viruses and molds of importance in diseases of domestic animals. Includes technical methods for their isolation, identification, serological diagnosis and the biological measures for control of the diseases they cause.
- 500-501-502. Veterinary Medicine (5-5-5). Lec. 5. Fall, Winter and Spring. Wiggins and Gibbons**  
A detailed study of the etiology, symptoms, pathogenesis, diagnosis, treatment and prevention of the medical diseases affecting the various systems and organs of the equine, bovine, ovine and porcine species. Studies begin with diseases of the respiratory system and continue with diseases of the digestive system, urinary system, circulatory apparatus, nervous system, skin and disorders of metabolism.
- 503. General Surgery (3). Lec. 3. Winter. Vaughan**  
Principles of general surgery including general surgical techniques, administration of anesthetics, restraint, surgical bacteriology, preoperative preparation, post-operative care, surgical repair and the care and selection of instruments.
- 504. Large Animal Surgery (5). Lec. 5. Spring. Vaughan**  
A study of special surgical conditions affecting the various parts of the animal body, and surgical treatment of such. The physical examination of the eye and a study of diseases of the eye, pathological horse shoeing, diagnosis and treatment of lameness, and special surgical operations are completed in this course.

508. **Large Animal Clinic (1). Lec. 4. Spring.** Schell and Staff  
Under the direction of the instructor the student begins the actual handling and treatment of clinical cases. The basic principles of diagnosis and treatment of diseases learned in the previous clinical courses are applied by the student. Students are assigned to clinical laboratory and post mortem work. Clinic sessions will be held every afternoon Monday through Friday and on Saturday morning. Students are required to be present at all clinic sessions.
510. **Small Animal Medicine (5). Lec. 5. Fall.** Hoerlein  
Detailed consideration of the systemic, noninfectious, and parasitic diseases of the small domestic animals.
512. **Small Animal Surgery (5). Lec. 3, Lab. 6. Spring.** Hoerlein and Swalley  
Lecture—specific basic surgical techniques. Laboratory—performance of basic surgical operations on anesthetized animals which are owned by the college.
518. **Small Animal Clinic (1). Lab. 4. Spring.** Heath  
During the spring quarter students begin actual handling and treatment of cases. Students are assigned to clinical laboratory and post mortem work.
519. **Small Animal Medicine (3). Lec. 3. Spring. Pr., VM 510.** Heath  
A continuation of Small Animal Medicine VM 510 giving detailed consideration to advanced study and differential diagnoses of diseases of small domestic animals.
521. **Milk Sanitation (5). Lec. 4, Lab. 2. Winter. Pr., VM 461.** Crawford  
A study of sources and development of bacteria in milk; sanitary production; public health requirements; standard methods of milk analysis; the bacteriological control of milk supplies; milk plant sanitation and equipment; the methods of dairy farm and plant inspection; and occasional inspection trips.
- 526-27. **Physical Diagnosis and Clinical Technics (2-2). Lec. 1, Lab. 4. Fall and Winter.** Vaughan and Swalley  
The demonstration and practice of methods employed in physical diagnosis, handling, restraint and administration of therapeutic agents to farm and small animals.
528. **Applied Anatomy (2). Lec. 1, Lab. 2. Fall.** James and Holloway  
Deals with those aspects of anatomy which are related to diagnostic obstetrical and surgical procedures.
530. **Radiation Biology and Diagnostic Radiology (5). Lec. 3, Lab. 4. Winter.** Evans and Woodley  
The first half of this course deals with the effects of radiation on animal tissues, the use of radioactivity as a food preservative, and the therapeutics of radiation injury. The theory and use of instruments designed to detect radioactivity are also covered. The second half of the course deals with a study of the fundamentals of radiology and the clinical application of diagnostic roentgenology for veterinary medicine.
- 531-551-552. **Jurisprudence and Ethics (1-1-1). Lec. 1. Winter, Summer.** Schell  
Laws relating to duties of the veterinarian to the public and to his clients, his liabilities, rights, collection of fees, etc., will be considered. Ethics as applied to the veterinary profession will be stressed.
553. **Special Anatomy (1 to 5). Hours and credit to be arranged. Pr., VM 320.** Whiteford, James and Holloway  
An elective course which deals with any phase of anatomy of domestic animals related to the anticipated field of specialization by the student.
554. **Veterinary Medicine (3). Lec. 3. Summer.** Wiggins  
The study and identification of the poisonous plants of the Southeastern states as well as their characteristic symptoms, lesions and treatment.
- 555-556. **Infectious Diseases (5-5). Lec. 5. Fall and Winter.** Gibbons  
These courses are designed to include a study of the principal infectious diseases of the large domestic animals. It is concerned mainly with the epizootiology, etiology, symptoms, diagnosis and prevention of diseases, including immunization and sanitation. The first quarter includes the study of acute and chronic bacterial diseases. The second quarter is devoted to consideration of virus and protozoan diseases. Federal and State regulations governing the interstate movement of animals and Federal and State quarantine laws and regulations are also covered.
- 557-558. **Applied Anatomy (1-1). Lab. 2. Summer and Winter.** James and Holloway  
Deals with those aspects of anatomy which are related to diagnostic, obstetrical and surgical procedures.
560. **Obstetrics (5). Lec. 5. Summer.** Walker  
A study of the normal and abnormal conditions connected with reproduction in domestic animals. Methods of diagnosis and treatment of sterility in both male and female, and methods of artificial insemination will be included in this course.
561. **Veterinary Medicine (5). Lec. 5. Fall.** Horne  
The study and methods of diagnosis, postmortem findings, and treatment of common chemical and venom poisoning of farm animals and pets.

- 562-563-564. Large Animal Surgical and Obstetrical Exercises (1-1-1). Lab. 2. Summer, Fall, and Winter. Walker, Vaughan and Gibbons  
Demonstrations and practical application of surgical and obstetrical procedures as carried out on farm animals.

- 566-567-568. Large Animal Clinic (2-2-2). Lab. 8. Summer, Fall, and Winter. Schell and Staff  
Consists of daily conferences and clinical laboratory. The laboratory consists of practice in diagnosis, therapy, post-mortem, and clinical laboratory examinations. The instruction is accomplished in small groups each under the supervision of an instructor of the clinical or pathology staff.

- 572-573-574. Small Animal Surgical Exercises (1-1-1). Lab. 2. Summer, Fall, and Winter. Heath, Horne and Hunt  
Detailed consideration and performance of advanced small animal surgery.

575. Meat Sanitation (5). Lec. 5. Summer. Pr., VM 452, 458, and 461. Crawford  
A study of ante-mortem and post-mortem inspection of animals slaughtered for food; interpretation of regulations governing the disposition of carcasses showing pathological conditions; construction of abattoirs for small towns.

- 576-577-578. Small Animal Clinic (2-2-2). Lab. 8. Summer, Fall, and Winter. Hoerlein and Heath  
Consists of daily conferences and clinical laboratory. The laboratory consists of practice in diagnosis, therapy, post-mortem, and clinical laboratory examinations. The instruction is accomplished in small groups each under the supervision of an instructor of the clinical or pathology staff.

582. Seminar (3). Winter. Whiteford and Staff All Departments  
Each student prepares one or more case reports or literature reviews as assigned by the faculty Seminar committee. Written reports are prepared and a summary given before the entire class and faculty members. This is followed by an open discussion by students and faculty.

588. Veterinary Medicine (5). Lec. 5. Winter. Gibbons and Burns  
This course is designed to place special emphasis on the newer aspects of diseases of metabolism and the nutritional diseases of farm animals. A portion of the course is devoted to the special study of swine and sheep diseases.

592. Internship. Spring.  
Completion of satisfactory internship during the spring quarter with reputable veterinary practitioner required for graduation.

## GRADUATE COURSES

### Courses for Advanced Undergraduates and Graduates

Candidates for master's degree in the School of Veterinary Medicine are required to pass a preliminary oral examination and demonstrate adequate knowledge in their chosen fields. They must meet the general requirements for admission into the Graduate School. For further details as to the conditions and requirements pertaining to graduate work, the applicant is referred to the chapter on the Graduate School in this catalogue and memoranda issued by the school; also see special Graduate School bulletin.

The following graduate courses are offered only for students who have completed the requirements for the degree Doctor of Veterinary Medicine, except where indicated.

414. Techniques in Bacteriology (5). Pr., VM 461 or equivalent and junior standing. Any quarter by arrangement. Neal  
Advanced techniques used in bacteriology, pertaining to isolation, cultivation and identification of microorganisms. (Course limited to five students.)
418. General Pathology (5). Lec. 3, Lab. 4. Fall. Pr., satisfactory courses in histology and physiology. Groth  
A study of the fundamental alterations of disease, adapted for especially qualified graduate students. (Not available for candidates for M.S. in Veterinary Medicine.)
425. Intermediate Human Physiology (5). Lec. 4, Lab. 2. Summer or Fall by arrangement. Pr., VM 210 or its equivalent and junior standing. Robertson  
This course is designed for advanced students in home economics, education and others who are qualified. It consists of a detailed study of the physiology of the various organs of the body. (Not available for candidates for M.S. in Veterinary Medicine.)
441. Physiological Function Tests and Laboratory Diagnosis (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor, acceptable courses in physiology, and junior standing. Burns  
Chemical, photometric, and enzymatic procedures used in diagnosis of abnormal body functions. Included are function tests for the thyroid, liver, kidney, heart, pancreas, etc.



460. **Histological Techniques (2 to 5).** Hours and credit to be arranged. Pr., VM 326 and junior standing. **Fitzgerald and Whiteford**  
A detailed study of the techniques employed in the preparation of cytological and histological materials.
462. **Microbial Physiology (5).** Lec. 2, Lab. 6. Pr., VM 420 or other satisfactory courses in microbiology and senior standing. By arrangement. **Teresa**  
A survey of metabolic changes occurring within microorganisms, metabolites which are produced and actions on inorganic substances, nitrogenous compounds, citric acid, carbohydrates, etc. Also a study of microbial growth, biosynthesis and adaptation. The laboratory will stress qualitative and to a limited extent evidence of quantitative metabolic phenomena. (Available to especially qualified students in other schools as well as to candidates for M.S. in Veterinary Medicine.)
465. **Special Techniques in Histopathology (3).** Lab. 9. Pr., VM 453, VM 460. Any quarter by arrangement. **Groth**  
A study of special stains and techniques of histochemistry employed in the preparation of materials for histopathologic study.
467. **Gross Pathology (2).** Lab. 6. Pr., VM 453, junior standing and permission of instructor. Any quarter by arrangement. **Staff**  
Consists of regular participation in the autopsy examinations under the supervision of senior staff members and is designed to give the graduate student experience in autopsy procedures and in diagnostic interpretation of gross lesions. (Required of all majors and minors in Pathology.)
470. **Health Physics (5).** Lec. 4, Lab. 3. Fall. Pr., permission of instructor. (Designed for students in biological and physical sciences who might use radioactive nuclides in their respective professions.) **Clark and Carr**  
Fundamental principles of radioactivity, instrumentation for detecting and monitoring radioactive nuclides; radiation effects on man; permissible radiation dosages; safe handling of radioactive substances; and shielding from various radiations.
602. **Advanced Pathogenic Microbiology (5-5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., VM 461. **Neal**  
A comprehensive study of the identification of pathogenic microorganisms and their relationship to animal diseases.
- 604-605. **Immunology (5-5).** Lec. 2, Lab. 6. Pr., VM 461 or equivalent. Spring quarter by arrangement. **Neal**  
A detailed study of immunizing agents, methods of establishing immunity, and techniques for demonstrating various types of immunity and antigen-antibody reactions. The work may be arranged to meet the particular interest of the student.
606. **Virus and Rickettsiae (5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., acceptable courses in bacteriology and immunology. **Staff**  
Nature, activities and methods of cultivation of viruses and rickettsiae; their relation to bacteria, plants and animals.
609. **Clinical Mycology (5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in bacteriology. **Attleberger**  
Methods and techniques used in isolating and propagating yeasts, molds and actinomycetes pathogenic for animals. Laboratory diagnosis of fungus infections in animals.
611. **Advanced Pathology (5).** Lec. 2, Lab. 6. Pr., VM 453 or equivalent. Spring or Summer. **Groth**  
A comprehensive study of systemic and special pathology.
613. **Diagnostic Histopathology (1-5).** Hours and credit to be arranged. Pr., VM 465. Any quarter by arrangement. **Staff**  
A comprehensive study of the histopathology of diseases of domestic, wild and zoo animals. The student studies all appropriate material submitted for histopathologic diagnosis under the supervision of the pathologists.
615. **Oncology (5).** Lec. 1, Lab. 8. Pr., VM 465. Any quarter by arrangement. **Staff**  
A detailed study of the gross and microscopic pathology of the neoplasms of the domestic animals.
- 617-618. **Advanced Parasitology (5-5).** Lec. 4, Lab. 3. Pr., acceptable undergraduate and graduate courses in parasitology. **Bailey**  
A comprehensive study of the ecology and host-parasite relationships of animal parasites. Special emphasis will be given to the factors affecting epidemiology of parasites, the mechanism of invasion of the host's body, factors involved in the pathogenesis of the infection and the mechanisms and effects of immunity response by the host.
- 621-622-623. **Advanced Systematic Veterinary Anatomy (5-5-5).** Lec. 2, Lab. 9. Any quarter by arrangement. **Fitzgerald and Whiteford**  
A detailed study of special phases of gross anatomy of systems and organs of domestic animals.

- 625-626. Advanced Histology of Domestic Animals (5-5). Lec. 2, Lab. 9. Any quarter by arrangement. Fitzgerald and Whiteford  
A detailed study of special phases of the microscopic structure of animal tissues and organs.
631. Advanced Pathological Physiology (5). Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in physiology. Clark  
A study of the physiological response of the body to disease. It is an attempt to explain the signs and symptoms of diseases based on physiological principles. The diseases discussed will be those of the liver, kidney and digestive systems.
632. Advanced Pathological Physiology (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor. Clark  
A physiological explanation of abnormalities of the reproductive and endocrine systems.
- 635-636. Advanced Veterinary Pharmacology (5-5). Lec. 3, Lab. 4. Any quarter by arrangement. Pr., VM 436, VM 437, VM 438. Clark and Woodley  
A detailed study of the pharmacology of some of the more important drugs used in veterinary medicine. In the laboratory, the students will have an opportunity to determine the pharmacology of the drugs on the horse, cow, pig, and dog.
638. Digestive Processes in Domestic Mammals (5). Lec. 5. Any quarter by arrangement. Pr., VM 421 or its equivalent. Burns  
A detailed study of the enzymatic and bacterial digestion as well as the motility of the gastro-intestinal tract in farm animals.
639. Small Animal Nutrition (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in physiology. Burns  
Requirement of amino acids, fats, carbohydrates, minerals and vitamins for dogs, cats and other small animals. Nutritional antagonists and symptoms of nutritional deficiencies in the animals.
643. Veterinary Radiation Biology (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in chemistry and animal physiology. Clark  
A study of the instruments used for radiation detection, isotope techniques, and diagnostic tests used in animals, and the effects of radiation on animal tissues. The isotopes will be primarily gamma emitters.
645. Electrocardiology and Blood Vascular Physiology (5). Any quarter by arrangement. Pr., permission of instructor and acceptable courses in physiology. Clark  
A study of the physiology of the blood vascular system and the advanced techniques used in electrocardiology.
647. Canine Neurosurgery (5). Lec. 2, Lab. 6. Any quarter by arrangement. Pr., permission of the instructor. Hoerlein and Clark  
The study of the applied anatomy, physiology, physical and radiographic diagnosis, and surgical correction of lesions (especially those of traumatic origin) affecting the nervous system of the dog.
- 651-652. Advanced Large Animal Surgery (5-5). Lec. 1, Lab. 8. Any quarter by arrangement. Gibbons, Vaughan and Walker  
Research in surgery. Advanced techniques for surgical procedures in the domestic animals.
- 654-655. Advanced Large Animal Medicine (5-5). Lec. 1, Lab. 8. Any quarter by arrangement. Gibbons and Wiggins  
Special study of the causes, methods of diagnosis, treatment and methods of control and eradication of selected non-surgical diseases of domestic animals.
- 657-658. Breeding Diseases of Animals (5-5). Any quarter by arrangement. Gibbons  
A research course for graduate study of fertility in domesticated animals, but particularly, investigation into the etiology, pathogenesis, and treatment of sterility and impaired fertility. Diseases of pregnancy and parturition are also included.
- 660-661. Advanced Small Animal Surgery (5-5). Lec. 1, Lab. 10. Any quarter by arrangement. Hoerlein  
Techniques in general small animal surgery.
662. Advanced Small Animal Orthopedic Surgery (5). Lec. 1, Lab. 10. Any quarter by arrangement. Hoerlein  
New techniques in general orthopedic surgery.
663. Advanced Small Animal Eye Surgery (5). Lec. 1, Lab. 10. Any quarter by arrangement. Hoerlein  
New techniques in eye surgery.
- 664-665. Advanced Small Animal Medicine (5-5). Lec. 1, Lab. 10. Any quarter by arrangement. Hoerlein  
Special study of the causes, methods of diagnosis, treatment and control of non-surgical diseases of small animals.

666. Advanced Canine Neurology (5). Lec. 3, Lab. 6. Any quarter by arrangement. **Hoerlein**  
Special study of etiology of diagnosis, treatment and control of neurological diseases of the dog.
667. Advanced Radiology (5). Lec. 3, Lab. 4. Any quarter by arrangement. **Evans**  
A detailed study of radiographic techniques including assignments on basic radiation physics.
668. Advanced Radiology (5). Lec. 1, Lab. 8. Any quarter by arrangement. **Evans**  
A detailed study of advanced radiographic techniques including fluoroscopy, uses of contrast mediums, and the principles of image intensification and cineradiography.
669. Radiological Interpretations (5). Lec. 1, Lab. 8. Any quarter by arrangement. **Evans**  
Advanced study of radiological interpretation of pathological lesions of domestic animals.
697. Journal Club. Non-credit course required of all graduate students in Veterinary Medicine. Meets at scheduled intervals during Spring or Summer. **Staff**
698. Research Problems (2 to 5). Credit to be arranged. **Staff**
699. Research and Thesis; credit to be arranged. **Staff**

### Zoology-Entomology (ZY)

*Head Professor Arant*

*Professors Baker, Dendy, Eden, Good, Guyton, Pearson, and Swingle*

*Research Lecturer Porter*

*Associate Professors Arthur, Blake, Dust, K. Hays, Lawrence, Ottis, and Prather*

*Assistant Professors Ivey, Mechem, and Turner*

*Instructors Blair, D. Hays, and Sanford*

*Graduate Assistants Bradley, Collings, and Hurst*

The courses in this department are designed to teach the fundamental and economic principles of animal biology; they are especially planned to serve students in Agriculture, Agricultural Education, Education, Home Economics, Laboratory Technology, Pre-Medicine, Secondary Education, Science and Literature, Veterinary Medicine, and Zoology.

Courses have been arranged for those students desiring to major or minor in Entomology, Fisheries Management, Game Management, and other Zoological sciences. There are many opportunities for well trained students in the field of Entomology, Fisheries and Game Management, and Zoology. The various divisions of the United States Department of Agriculture use trained men and women for research, extension, and regulatory work in combating insects, rodents and other pests. The Department of Interior, Fish and Wildlife Service, uses biologists in connection with wildlife research and management. The U.S. Soil Conservation Service offers employment to those trained in impounded water management for fish culture. State Departments of Agriculture use trained men for regulatory and inspection service. The research, extension, and teaching staffs of colleges and universities are also fields of opportunity as are commercial organizations in various phases of zoological work.

101. General Zoology (5). Lec. 4, Lab. 2. All quarters. **Staff**  
The principles of animal biology emphasizing metabolism, growth, reproduction, and inheritance; structure, habit, function, distribution, and economic importance of non-chordate animals.
102. General Zoology (5). Lec. 4, Lab. 2. Pr., ZY 101. All quarters. **Staff**  
A study of the structure, habits, development, function, distribution, heredity, and economic importance of chordate animals.
204. Insects (3). General elective. **Staff**  
An introduction to the study of life processes, occurrence, and importance of insects. (May not be taken for credit by students who have already earned credit in a more advanced course in entomology.)
205. Wildlife Conservation (3). Winter, Summer. General elective. **Pearson**  
The conservation and natural history of important wildlife animals, especially Alabama fish, amphibians, reptiles, birds and mammals. Some field trips may be required, as substitute for part of the scheduled lectures.
206. Conservation in the United States (3). Winter, Spring, Summer. General elective. **Good**  
The basic facts essential to an understanding of current problems pertaining to the conservation of our rapidly depleting natural resources such as soil, water, minerals, forest, and wildlife. Especially planned for elementary and high school teachers.

207. Birds (3). Lec. 3. Fall, Summer. General elective. Good  
Birds in relation to agriculture and game management, recognition of various species as to flight, color markings, songs, and feeding habits.
210. Fish Culture (3). Lec. 3. Winter. General elective. Dendy  
Introduction to the construction and management of ponds, and the principles underlying fish production; also fishing methods, bait production, and the identification of the more common sport fish.
214. Vertebrate Physiology and Anatomy (5). Lec. 4, Lab. 3. Fall. Pr., ZY 102. Otis  
A survey of the function and structure of the organ systems of the vertebrate. This offering is aimed primarily to fill the needs of students in the Schools of Agriculture and Education. It cannot be used as a prerequisite to ZY 424.
301. Comparative Anatomy (5). Lec. 3, Lab. 6. All quarters. Pr., ZY 101-2. Mechem  
Comparison of the systems of the vertebrates.
302. Vertebrate Embryology (5). Lec. 3, Lab. 6. Winter, Spring, Summer. Pr., ZY 101-2. Ivey  
A consideration of the details of fertilization, cleavage, morphogenesis, and organogenesis of the amphioxus, frog, chick, pig, and human from a descriptive and analytical viewpoint. Laboratory work will consist of a study of prepared material supplemented with available living material.
303. Medical Parasitology (5). Lec. 3, Lab. 6. Winter. Pr., ZY 101-2. Guyton  
A biological study of the parasitic flatworms, roundworms, and protozoa with special emphasis on the distribution, life cycle, diagnosis, prevention, and control of forms affecting the health of man. Consideration will be given to the interrelationship between helminths of man and other animals.
304. General Entomology (5). Lec. 4, Lab. 3. Fall, Summer. Pr., ZY 101-2. Good  
The general characteristics and habits of the orders and families of the Class Insects.
305. Forest Entomology (5). Lec. 4, Lab. 2. Spring. Pr., ZY 101. Pearson  
Principles of entomology in relation to insects of forests and forest products; recognition, life histories, and control of major insects of forests.
308. Micrology (5). Lec. 3, Lab. 6. Fall, Winter. Pr., ZY 101-2. Dusi  
Methods of fixation, imbedding, sectioning, staining and mounting tissues of the vertebrates and invertebrates.
311. General Parasitology (5). Lec. 3, Lab. 6. Fall., Pr., ZY 101-2. Turner  
An introduction to the basic principles of parasitology; origin of parasites, adaptations of parasites, host-parasite relationships, and ecology. A survey of representative parasitic protozoa, helminths, and arthropods of man, domestic animals, fish and game with emphasis on identification, life histories, prevention, and control.
312. Practical Fish Culture (5). As arranged. Swingle  
Credit will be arranged for 3 months work in a state or federal hatchery or in an approved commercial hatchery or on other phases of fish culture.
400. Genetics (5). Lec. 4, Lab. 2. Fall, Spring. Pr., ZY 101-2 or BY 201-2, MH 107, and junior standing. Ivey  
A technical course designed to illustrate on a mathematical basis the science of genetics and the mode of action of the gene. Laboratory work will consist of crossing experiments with fruit flies and a study of prepared material designed to illustrate the basic genetic ratios.
401. Invertebrate Zoology (5). Lec. 3, Lab. 6. Winter. Pr., ZY 101-2 and junior standing. Dendy  
The biology, taxonomy, and ecology of invertebrate animals.
402. Economic Entomology (5). Lec. 4, Lab. 3. Fall, Spring, Summer. Pr., junior standing. Guyton  
A consideration of the biological aspects, life histories, and control of insects.
404. Medical Entomology (5). Lec. 4, Lab. 3. Spring. Pr., ZY 304 and junior standing. Hays  
Insects, mites, and ticks of parasitological or medical importance to man. Emphasis will be placed on the role of arthropods in the transmission of protozoan and other diseases and the prevention of these diseases by controlling their arthropod vectors.
405. Forest Insects (5). Lec. 4, Lab. 3. Fall. Pr., ZY 304, 305, or 402 and junior standing. Staff  
Principle insects of forests and forest products; their importance, taxonomy, bionomics, and control. Emphasis will be placed on life histories and habits, identification by morphological characteristics and type of damage, and control by chemical, biological, and cultural or forest-management practices.

406. **Bee Culture (5).** Lec. 4, Lab. 3. Spring. Pr., ZY 101-2 and junior standing. **Guyton**  
Manipulation and production of bees and honey, and a consideration of bee diseases.
409. **Histology (5).** Lec. 3, Lab. 6. Spring. Pr., junior standing. **Dusi**  
Origin, recognition, and functions of the fundamental and special tissues of the vertebrates.
410. **Systematic Entomology (5).** Lec. 2, Lab. 6. Winter. Pr., ZY 304 and junior standing. **Good**  
A systematic determination of insects through orders, families, genera, and species.
413. **Ecology and Identification of Fishes (5).** Lec. 1, Lab. 8. Fall. Pr., ZY 101-2 and junior standing. **Dendy**  
Field trips for the study of fish distribution and laboratory practice in the identification of the more common species.
414. **Aquatic Insect Taxonomy (5).** Lec. 1, Lab. 8. Summer, even years. Pr., ZY 304 and junior standing. **Good**  
Collection and identification of common aquatic insects, with emphasis on the immature forms.
415. **Limnology (5).** Lec. 4, Lab. 3. Spring. Pr., CH 102, PS 205, ZY 101-2, and junior standing. **Dendy**  
Chemical, physical, and biological factors affecting aquatic life.
420. **Vertebrate Zoology (5).** Lec. 3, Lab. 6. Fall. Pr., ZY 102 and junior standing. **Dusi**  
Physiology, taxonomy, and ecology of vertebrate animals.
424. **Animal Physiology (5).** Lec. 4, Lab. 3. Fall, Winter. Pr., ZY 301 and junior standing. **Ottis**  
A systematic study of the physiology of the nervous system, special senses, circulation, respiration, digestion, kidney function, hormonal control, and reproduction. An effort is made to acquaint the student with methods of experimentation as a means for the direct acquisition of physiological facts.
426. **Principles of Game Management (5).** Lec. 4, Lab. 3. Fall. Pr., ZY 101-2 and junior standing. **Pearson**  
Fundamentals of game management theory, techniques, and administration.
428. **Hatchery Management (5).** Lec. 3, Lab. 4. Spring. Pr., junior standing. **Prather**  
Operation of warm-water hatcheries for the production of game fish and bait minnows; care of brood fish; methods of stocking, fertilization, use of supplementary feeds, weed control; trapping, sorting, counting fish, transportation; control of parasites, and related hatchery problems.
429. **Pond Construction (5).** Lec. 1, Lab. 8. Fall. Pr., junior standing. **Lawrence**  
Principles and practice in the selection of pond sites; surveying pond areas; use of dynamite in dam construction; installation of drain pipes and valves; and construction of dams, spillways, and diversion ditches.
430. **Principles of Heredity (5).** Lec. 5. Winter, Summer. Pr., ZY 101-2 or BY 201-2 and junior standing. **Staff**  
A survey course in the science of genetics designed for students who will not take additional courses in genetics. The basic facts essential for an understanding of the mode of inheritance in plants and animals will be presented in a non-technical manner. Credit may not be allowed for both ZY 430 and ZY 400. Restricted to students in Education except by special permission.
431. **Field Zoology (5).** Lec. 2, Lab. 6. Summer. Pr., Teaching Experience and junior standing. **Staff**  
Designed to give secondary teachers a knowledge of natural history and field identification of common animals of this region. The collection and preparation of specimens for classroom use will be included. Restricted to students in Education except by special permission.
432. **Animal Biology (5).** Lec.-Dem. 5. Summer. Pr., Teaching Experience and junior standing. **Staff**  
Principles of animal biology with emphasis on the structure and function of the human body. Preparation and utilization of demonstration material will be stressed. Restricted to students in Education except by special permission.

## GRADUATE COURSES

The Department of Zoology-Entomology offers graduate training on the Master's and Doctoral levels. Students desiring graduate training in zoology, entomology, fisheries and management, or game management should have a degree from a recognized institution with adequate undergraduate training in zoology, botany, chemistry, physics, and mathematics. The training should include 30 hours of biological science related to the major subject. Training in agricultural subjects is essential also except



for majors in zoology. Qualified students lacking one or more prerequisite subjects may be admitted but will be required by the departmental advisory committee to make up the prerequisites without credit.

The Auburn University Agricultural Experiment Station has at present active research projects in entomology, fisheries management, game management, and zoology. These projects afford an opportunity for part-time employment by graduate students on a two-year basis as graduate assistants. There are also graduate assistantships in connection with the teaching program.

The Farm Ponds project has approximately 150 ponds of various sizes which are available for use in training graduate students. Facilities of the Cooperative Wildlife Research Units are available for use in training graduate students in wildlife management. This unit is operated cooperatively by Auburn University, State Department of Conservation, the Fish and Wildlife Service of the Department of Interior and the Wildlife Management Institute. Facilities of the Experiment Station at Auburn and at the various sub-stations and experiment fields located in all parts of the state are available for conducting research in connection with these projects in entomology. Excellent laboratory facilities are available for studies in insect physiology, insect toxicology, and economic entomology. These are required of all students.

Students devoting full time to graduate studies may complete the M.S. degree within a minimum of one calendar year. The doctoral degree requires a minimum of three school years or nine quarters beyond the B.S. degree. Students on one-half time assistantships require two calendar years for completion of the M.S. degree or four calendar years for the completion of the Ph.D. degree. Part of the doctoral work may be done in absentia if necessary arrangements are made in advance.

The graduate degrees offered in the Department of Zoology-Entomology are as follows:

Master of Science in Zoology

Master of Science in Entomology

Master of Science in Fisheries Management

Master of Science in Game Management

Doctor of Philosophy in Zoology with special emphasis on entomology, fisheries management, game management, or zoology proper.

Comprehensive examinations will be given to all candidates for Master's and Doctoral degrees. Master's degree candidates may receive written examinations at the discretion of the candidate's faculty-advisory committee and will be given an oral examination in the office of the Dean of the Graduate School. All students in the doctoral program will be given comprehensive written and oral qualifying examinations prior to admittance to candidacy for degree. When the thesis work has been completed a final oral examination will be held.

In all of these fields there are opportunities in research, in state experiment stations, government divisions, and commercial organizations. There are other opportunities as extension workers, biologists in Soil Conservation Service, regulatory and inspection service in the U.S. Plant Pest Control Division, as teachers in high schools and colleges, and in state departments of agriculture.

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| 601. Insect Morphology (5). Lec. 2, Lab. 6. Fall.   | Good  |
| A study of internal and external structure of insects.  |       |
| 602. Advanced Insect Taxonomy (5). Lec. 1, Lab. 8. Spring. Pr., ZY 410.   | Good  |
| A detailed study of the classification of insects. Special emphasis is placed on the classification of orders and families of insects in which the student is interested.   |       |
| 603. Insect Physiology (5). Lec. 3, Lab. 6. Fall. Pr., ZY 424.  | Ottis |
| General and comparative physiology of insects; a survey of the organ systems and their functioning in various insects. Emphasis on research methods and evaluation of data. |       |
| 604. Insect Toxicology (5). Lec. 4, Lab. 3. Winter.   | Eden  |
| Toxic action of insecticides; analysis, preparation and use of insecticides; spray residues in relation to health; research methods in insect toxicology.                   |       |
| 605. Ornithology (5). Lec. 3, Lab. 6. Spring.   | Dusi  |
| The taxonomy, ecology, and life history of the birds of southeastern United States.   |       |
| 606. Mammalogy (5). Lec. 3, Lab. 6. Winter. Pr., ZY 420.  | Dusi  |
| The life history, ecology, and taxonomy of mammals, with special reference to game, fur-bearing, and predator groups; preparation of skins and pelts for study and display. |       |



607. **Farm Game Management (5).** Lec. 3, Lab. 6. Fall. Pr., ZY 426. **Pearson**  
This course is designed for graduate students majoring in Game Management or Fisheries Management. Application of game management theories, techniques, and administration with special emphasis on farm game species.
608. **Forest and Range Game Management (5).** Lec. 3, Lab. 6. Winter. Pr., ZY 426. **Pearson**  
For graduate students majoring in Game Management or Fisheries Management. Application of game management theories, techniques, and administration with special reference to forest and range game.
609. **Advanced Applied Entomology (5).** Lec. 4, Lab. 3. Fall. Pr., ZY 402. **Guyton**  
Methods of insect control including inspection, quarantines, and other legal procedures; insecticidal, biological, and cultural control; principal pests of United States; pests likely to be imported.
610. **Immature Forms of Insects (5).** Lec. 2, Lab. 6. Winter. Pr., ZY 410. **Hays**  
Structure and identification of immature forms of insects; methods of collecting and preserving; development and use of keys for classifying immature insects.
611. **Advanced Insect Morphology and Embryology (5).** Lec. 3, Lab. 4. Spring. Pr., ZY 601. **Blake**  
A continuation of ZY 601, stressing specialized structures, nervous system, the special senses, muscular system, reproductive system, and embryological developments of insects.
612. **Advanced Insect Toxicology (5).** Lec. 4, Lab. 3. Spring. Pr., ZY 604. **Arthur**  
Mode of action, mode of entry, relation of chemical structure to toxicity, and precision methods of determination of insecticides; recent developments in the field of insecticide chemistry.
614. **Physiology of the Cell (3).** Lec. 3. Winter. Pr., ZY 424 and Organic Chemistry. **Ottis**  
Physiologic mechanisms common to all living cells with the emphasis on those of the vertebrates. The functions of the cell membrane and cytoplasm are studied as a basis for physiologic behavior of the animal organs and systems.
615. **Fisheries Biology (5).** Lec. 5, Lab. 0. Winter. **Dendy**  
General survey of the U.S. Fisheries resources, biology of commercial species, and a study of the management methods employed.
616. **Systematic Ichthyology (5).** Lec. 1, Lab. 8. Spring. Pr., ZY 413. **Dendy**  
Principles of classification and the construction and utilization of keys for the identification of fishes. The student will be required to collect and identify 50 species.
619. **Management of Impounded Waters (5).** Lec. 1, Lab. 8. Spring. **Swingle**  
Basic principles of water conservation, geochemical cycles and principles underlying fish production. Methods of stocking impounded waters, the use of fertilizers in pond management, and principles underlying plankton production. Field work at the experimental ponds at Auburn and in impoundments located in various parts of the State.
620. **Management of Impounded Waters (5).** Lec. 1, Lab. 8. Summer. **Swingle**  
A consideration of the species of fish in impounded waters, factors affecting their reproduction and growth, species combinations, species balance, pond analysis, renovation of old ponds, fishing experiments, weed and mosquito control, and related problems of water management. Field work will be conducted in the experimental ponds at Auburn, and in the impounded waters located in various parts of Alabama and neighboring states.
622. **Zoological Literature (5).** Lec. 3, Lab. 6. Winter. Pr., graduate standing. **Guyton**  
A study of zoological literature including journals, indexes, abstracting services, and standard references. For laboratory each student is required to review, abstract, and present written and oral reports on published results of research in his major field.
623. **Organic Evolution (3).** Lec. 3. Fall. Pr., ZY 430 or ZY 400. **Mecham**  
A consideration of evolutionary principles as illustrated by the various biological disciplines, particularly genetics, systematics, and paleontology.
624. **Advanced Animal Physiology (5).** Lec. 3, Lab. 6. Spring. Pr., ZY 424. **Ottis**  
Selected fundamental principles of vertebrate physiology, with emphasis on the nervous, circulatory, and excretory system.
628. **Comparative Vertebrate Endocrinology (5).** Lec. 3, Lab. 6. Spring. Pr., ZY 424. **Ottis**  
The chemistry and physiology of vertebrate hormones with a consideration of the experimental procedures used in the discovery of each of the endocrines. Operative removal of glands and studies of resultant deficiencies will be done in the laboratory.
630. **Advanced Genetics (5).** Lec. 3, Lab. 4. Fall, odd years. Pr., ZY 400. **Ivey**  
A continuation of ZY 400 emphasizing embryological effects, plasmagenes, speciation, effect of environment, biochemical genetics, and cytogenetics.

631. **Advanced Embryology (5).** Lec. 3, Lab. 4. Winter, odd years. Pr., ZY 302 and ZY 308. Ivey  
Fertilization, mechanism of cleavage, origin of asymmetry, gastrulation, organ-forming substances, cell lineage, effects of centrifugation, parthenogenesis, histogenesis, metabolism of the embryo, and effects of environment will be studied. Laboratory work will be done on chick, frog, insect, mollusk, fish, or other animal of special interest to the student.
632. **Helminthology (5).** Lec. 3, Lab. 6. Spring. Pr., ZY 311. Turner  
The morphology, physiology, classification, life cycles, and host-parasite relationships of representative helminths (Cestodes, Trematodes, and Nematodes). Methods of collecting, preserving, staining, mounting, and identification of helminths of local fauna.
634. **Protozoology (5).** Lec. 3, Lab. 6. Winter, even years. Pr., ZY 311. Turner  
A study of both free-living and parasitic protozoa important to agriculture, wildlife, and man. Morphology, physiology, reproduction, ecology, and life histories of parasitic forms will be emphasized.
635. **Furbearer and Waterfowl Management (5).** Lec. 3, Lab. 4. Winter. Pr., ZY 426. Pearson  
For graduate students with a major or minor in game management. A study of furbearer and waterfowl resources. Emphasis is placed on problems of management and utilization.
636. **Animal Ecology (5).** Lec. 3, Lab. 4. Winter. Pr., graduate standing. Hays  
A study of the principal environmental factors and their effect on animals. The distribution of animals and their ecological groupings will be a major consideration. At least one extended field trip outside of laboratory hours will be arranged.
637. **Herpetology (5).** Lec. 3, Lab. 6. Spring, odd years. Pr., ZY 420. Mecham  
A study of the morphology, taxonomy, ecology, and behavior of amphibians and reptiles. Laboratory collecting, preserving, and identification of local specimens will be an important consideration.
640. **Nematology (3).** Lec. 2, Lab. 3. Spring. Pr., ZY 632. Cairns  
Advanced study of free-living and plant- and animal-parasitic nematodes. Detailed consideration of aspects of morphology, reproduction, development, responses, physiology, and ecology.
641. **Field Entomology (3).** Lec.-Dem. 4. Fall or Spring. Pr., graduate standing.  
Identification of more important orders, families, and species of insects; a consideration of morphology, physiology, and development of insects; control of major pests. A collection of at least 100 species of economic insects will be required.
642. **Chemical Control of Insects (3).** Lec.-Dem. 4. Winter. Pr., graduate standing.  
Properties of insecticides, including toxic action in living organisms; major uses and methods of application of formulations; hazards involved in handling insecticides; spray residues in relation to marketability of crops.
643. **Heredity and Evolution (5).** Lec.-Dem. 5. Summer. Pr., 10 hours of general biology, botany, or zoology and teaching experience. Staff  
Principles of genetics and evolution as encountered by secondary teachers with emphasis on economic aspects. Common misconceptions regarding heredity and evolution will be discussed.
693. **Seminar.** Credit to be arranged. Staff
698. **Special Problems (2-5).** All quarters. Staff  
A. Zoology; B. Entomology; C. Apiculture; D. Parasitology; F. Physiology; F. Fisheries Management; G. Wildlife Management.
699. **Research and Thesis.** Credit to be arranged. Staff
799. **Doctoral Research and Dissertation.** Credit to be arranged. Staff

## Enrollment Statistics



## DIVISION AND COURSE

## School of Engineering

	Freshmen		Sophomores		Juniors		Seniors		5th		Graduates		Special and Unclassified		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Aeronautical Administration.....	8		31		22		16						1		78	
Aeronautical Engineering.....	3		38		39		38								118	
Civil Engineering.....	4		80		84	2	41				12				221	2
Electrical Engineering.....	4		178		156		151	1			19		2		510	1
Engineering Physics.....	3		18	1	29		11								60	1
Industrial Management.....	7		92		82		123				21		3		307	
Mechanical Engineering.....	2		102		105		115						4		349	
Pre-Engineering.....	1222	5											1		1223	5
Pre-Engineering Management.....	104	1	10		8		4	1					1		104	1
Textile Management.....	8		7		3		2								31	1
Textile Sciences.....															12	
TOTAL.....	1364	6	556	1	528	2	501	2			52		12		3013	11

## School of Home Economics

Home Economics.....	1	111	51		41		34					34		14	1	285
Nursing Science.....																
TOTAL.....	1	111	51		41		34				34		14	1	285	

## School of Pharmacy

Pharmacy.....	82	5	65	15	40	8	47	5			4	2		238	35	
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## School of Science &amp; Literature

Business Administration.....	455	26	329	25	199	11	183	10			10	3	4	1	1180	76
Pre-Dentistry.....	42	23	23		3		3						1		72	
Pre-Law.....	43	4	31	2	8	1	8								81	5
Pre-Medicine.....	43	4	31		8		11	1					7		100	3
Pre-Veterinary Medicine.....	58	3	24		3										85	3
Physics.....	33		21		16		5				19	2			94	2
Mathematics.....	17	15	4	1	1	1					56	11	2		80	28
Science & Literature.....	70	105	88	52	23	26	53	42			24	22	13	4	271	144
Secretarial Training.....	90		38		7		9									
TOTAL.....	760	245	543	118	261	46	263	62			109	38	27	5	1963	514

## School of Veterinary Medicine

Veterinary Medicine.....			52	3	52		63	1	54		17	1			238	5
GRAND TOTAL.....	3001	868	1638	525	1266	390	1227	389	73	1	970	657	202	182	8377	3012

Table II—Enrollment of Alabama Students by Counties

SUMMER, FALL, WINTER AND SPRING 1960-61 (as of April 15, 1961)

County	Men	Women	Total	Veterans
Autauga.....	37	14	51	2
Baldwin.....	108	31	137	10
Barbour.....	71	19	90	6
Bibb.....	15		15	
Blount.....	40	11	51	2
Bullock.....	19	12	31	1
Butler.....	57	28	85	3
Calhoun.....	140	34	174	12
Chambers.....	169	87	256	30
Cherokee.....	25	3	28	1
Chilton.....	51	20	71	7
Choctaw.....	3		3	1
Clarke.....	40	9	49	3
Clay.....	47	20	67	3
Cleburne.....	11	10	21	2
Coffee.....	73	25	98	9
Colbert.....	53	11	64	3
Conecuh.....	31	20	51	3
Coosa.....	31	14	45	4
Covington.....	111	41	152	11
Crenshaw.....	30	16	46	3
Cullman.....	64	28	92	4
Dale.....	70	29	99	6
Dallas.....	112	32	144	7
DeKalb.....	72	34	106	5
Elmore.....	113	59	172	7
Escambia.....	76	35	111	6
Etowah.....	177	58	235	16
Fayette.....	23	6	29	1
Franklin.....	31	5	36	
Geneva.....	62	34	96	4
Greene.....	4	2	6	
Hale.....	12	2	14	
Henry.....	43	12	55	1
Houston.....	142	46	188	8
Jackson.....	62	20	82	4
Jefferson.....	1165	447	1612	39
Lamar.....	16	3	19	
Lauderdale.....	47	10	57	6
Lawrence.....	32	7	39	1
Lee.....	753	332	1085	161
Limestone.....	23	2	25	
Lowndes.....	19	11	30	
Macon.....	40	17	57	3
Madison.....	131	55	186	5
Marengo.....	37	15	52	4
Marion.....	27	7	34	1
Marshall.....	61	21	82	4
Mobile.....	479	109	588	30
Monroe.....	45	20	65	1
Montgomery.....	428	179	607	30
Morgan.....	88	26	114	4
Perry.....	18	7	25	3
Pickens.....	17	1	18	
Pike.....	45	14	59	4
Randolph.....	75	34	109	13
Russell.....	129	48	177	10
St. Clair.....	26	9	35	5
Shelby.....	40	11	51	5
Sumter.....	14	4	18	1
Talladega.....	139	55	194	12
Tallapoosa.....	142	72	214	18
Tuscaloosa.....	22	4	26	4
Walker.....	31	9	40	1
Washington.....	19	9	28	
Wilcox.....	20	9	29	
Winston.....	14	1	15	2
TOTALS.....	6365	2375	8740	553



**Table III—Enrollment of Students by States, Territories and Foreign Countries**

SUMMER, FALL, WINTER AND SPRING 1960-61 (as of April 15, 1961)

State	Men	Women	Total	Veterans
Alabama.....	6365	2375	8740	553
Alaska.....		1	1	
Arizona.....	5		5	
Arkansas.....	9	13	22	2
California.....	15	1	16	4
Colorado.....		1	1	
Connecticut.....	7		7	
Delaware.....	1		1	
District of Columbia.....	2		2	
Florida.....	389	81	470	25
Georgia.....	621	282	903	32
Muscookee County, Ga.....	177	135	312	23
Hawaii.....		1	1	
Illinois.....	11	1	12	
Indiana.....	3	1	4	
Iowa.....		1	1	
Kansas.....		1	1	
Kentucky.....	64	5	69	12
Louisiana.....	36	13	49	3
Maine.....	2		2	
Maryland.....	6	2	8	1
Massachusetts.....	6		6	
Michigan.....	6	1	7	
Minnesota.....	1	2	3	
Mississippi.....	123	23	146	8
Missouri.....	5		5	2
Nebraska.....	1		1	
New Jersey.....	16	1	17	3
New Mexico.....	1	1	2	
New York.....	29	3	32	5
North Carolina.....	29	7	36	2
North Dakota.....	1	1	2	
Ohio.....	13	1	14	4
Oklahoma.....	2	1	3	
Oregon.....	1		1	
Pennsylvania.....	11	4	15	2
Rhode Island.....	3		3	
South Carolina.....	63	8	71	1
South Dakota.....	1	1	2	
Tennessee.....	191	23	214	13
Texas.....	16	3	19	
Utah.....	1		1	
Virginia.....	20	5	25	1
Washington.....	2		2	
West Virginia.....	6		6	
TOTALS—Other States.....	1896	624	2520	143
TOTALS—All States.....	8261	2999	11260	696
U.S. Territories	Men	Women	Total	Veterans
Canal Zone.....	5		5	
Puerto Rico.....	2	1	3	
TOTALS.....	7	1	8	

**Table III—Enrollment of Students by States, Territories and Foreign Countries**

(Continued)

SUMMER, FALL, WINTER AND SPRING 1960-61 (as of April 15, 1961)

Foreign Countries	Men	Women	Total	Veterans
Argentina.....	3		3	
Brazil.....	1		1	
Canada.....	1		1	
China.....	9	2	11	
Colombia.....	3		3	
Cuba.....	20	1	21	
Egypt.....	1	2	3	
Formosa.....		2	2	
Germany.....	2		2	
Greece.....	1	1	2	
Guatemala.....	4		4	
Holland.....	2		2	
Hungary.....	2		2	
India.....	7	1	8	
Indonesia.....	1		1	
Iran.....	13		13	
Iraq.....	7		7	
Italy.....	1		1	
Japan.....	2	1	3	
Jordan.....	2		2	
Korea.....	5		5	
Lebanon.....	1		1	
Lithuania.....	1		1	
Mexico.....	1		1	
Netherland Antilles.....	2	1	3	
Norway.....	1		1	
Pakistan.....	2		2	
Panama.....	5		5	
Peru.....	1	1	2	
Philippine Islands.....	2		2	
Syria.....	3		3	
Turkey.....	1		1	
Venezuela.....	2		2	
TOTALS.....	109	12	121	

## General Summary of Enrollment 1960-61

SUMMER, FALL, WINTER AND SPRING 1960-61 (as of April 15, 1961)

	Men	Women	Total
Regular Session (June 1960-April 1961).....	8,377	3,012	11,389
Correspondence Study Division:			
Correspondence Courses.....	676	819	1,495
Short Courses:			
4-H Club Conference.....	325	331	656
Farm Bureau Training School.....	200	101	301
Home Agents Program Planning Meeting.....	0	141	141
News Agents Training.....	0	22	22
Fourteenth Annual Pest Control Conference.....	211	4	215
Alabama Nutrition Conference.....	50	0	50
Farmers' Cooperative Short Course.....	150	0	150
Farm Credit Clinics.....	255	0	255
Dairy Herd Improvement Association Conference.....	255	0	255
Alabama Fertilizer Conference.....	120	0	120
Florists' Short Course.....	5	42	47
Cotton Irrigation Short Course.....	60	0	60
Soil Fertility Short Course.....	120	0	120
Nurseryman and Landscape Gardeners' Short Course.....	29	5	34
Annual Veterinary Conference.....	207	50	257
Special Veterinary Conferences (Post Graduate).....	33	1	34
Alabama Textile Operating Executive Conference.....	700	0	700
Alabama Textile Education Foundation.....	40	0	40
Special Textile Conferences.....	80	0	80
<b>TOTAL.....</b>	<b>11,893</b>	<b>4,528</b>	<b>16,421</b>

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